70 YEARS OF INTERCONNECT Innovation

THE A-TO-Z GUIDE TO GLENAIR SIGNATURE INTERCONNECT SOLUTIONS

JANUARY 2026

70 YEARS OF INTERCONNECT Innovation

Glenair®

THE COMPLETE A-TO-Z GUIDE	PAGE NO.

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HIGH-PERFORMANCE HOOKUP WIRE AND CABLE

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A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

About Glenair, the Mission-Critical Interconnect Company

Commitment to Quality, Availability, and Customer Service

Glenair is proud of the quality, availability, and performance we build into our broad range of mission-critical interconnect solutions—from bulk wire and cable, to aerospace-grade connectors, wire-protection shielding and jacketing, complex cable assemblies, and more. Since our founding in 1956, Glenair has made an indelible mark on the high-reliability interconnect industry with its innovative technologies built exclusively in the United States, UK, Italy, and Germany. Glenair's Worldwide Quality System is ISO 9001 and AS9100 certified and registered. We also hold many discrete product and process certifications for specialty, high-performance markets including space, nuclear power, and rail. In addition to world-class quality, we are laser-focused on industry-leading fast turnaround on quotes and orders, and are universally recognized as being the easiest manufacturer in our industry to do business with. Here are some of the reasons why:

Lightning-fast turnarounds on quotes and special orders

ISO 9001 and AS9100 quality

Huge same-day shipment inventory

Full-spectrum, "no gap" product lines

Abundant engineering and technical support

No attitudinal constraints when it comes to customer convenience and service

No Dollar or Quantity Minimum Orders
NO MINS.

No MOQ on any product including wire and cable

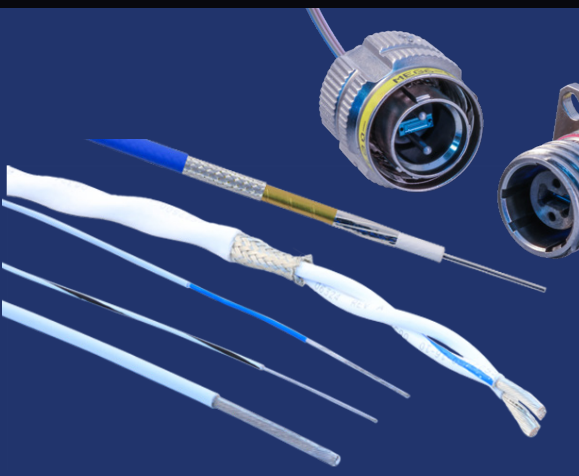
QPL qualified

Mil-qualified and Glenair signature technologies

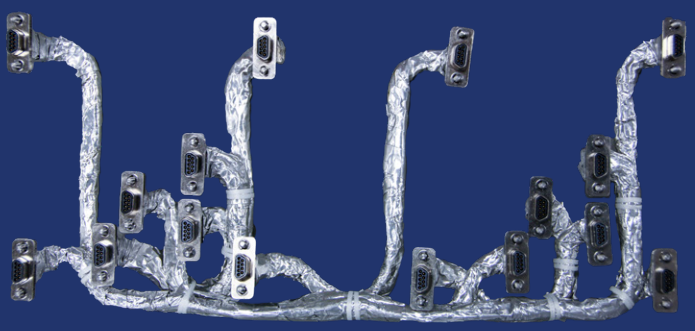
ABOUT GLENAIR

Mission-Critical Interconnect Solutions

Vertically-integrated factories worldwide serving local markets with high-availability products



Glenair's most important asset: highly technical staff, fully empowered with all the right facilities and operational resources—meeting the mission-critical interconnect requirements of customers worldwide



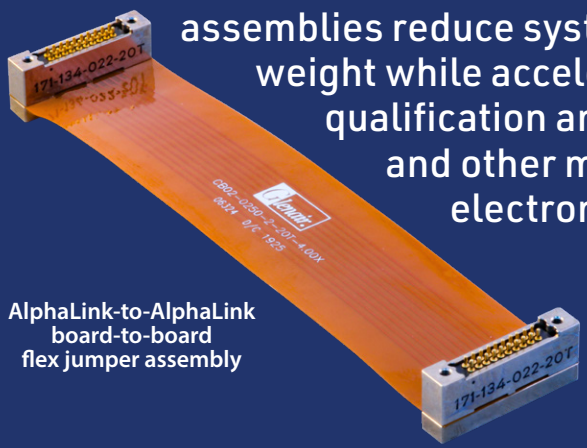
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

OPTIMIZED
FOR USE WITH
AEROSPACE-GRADE
SuperFlex™
PCB/FLEX CIRCUIT ASSEMBLIES

Alphalink®

Rugged I/O to spring-pin board connectors and flex assemblies

AlphaLink® SL flex jumpers: Compact point-to-point assemblies that combine lightweight flex circuitry with Glenair signature I/O and board-level connectors. These turnkey jumper assemblies reduce system size and weight while accelerating assembly qualification and test of avionics and other mission-critical electronic systems.



AlphaLink-to-AlphaLink board-to-board flex jumper assembly

A high-availability, fast-turnaround catalog solution, Glenair AlphaLink flex jumpers offer superior electrical and mechanical performance compared to conventional wire harnessing

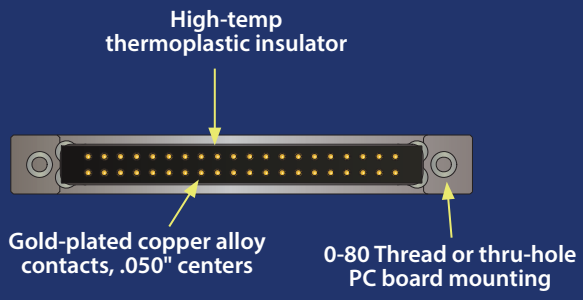
- **Chemically etched, copper-clad polyimide flex circuit jumpers offer excellent temperature tolerance, dimensional stability, and reduced size and weight**
- **All designs utilize AlphaLink® SL board connectors with solder-free spring-loaded contacts**
- **Glenair small form-factor Mighty Mouse, Micro-Crimp, HiPer-D, and SuperFly I/O connectors**
- **Designed for optimal electrical performance, including matched-impedance applications**

SPRING-PIN CONTACT

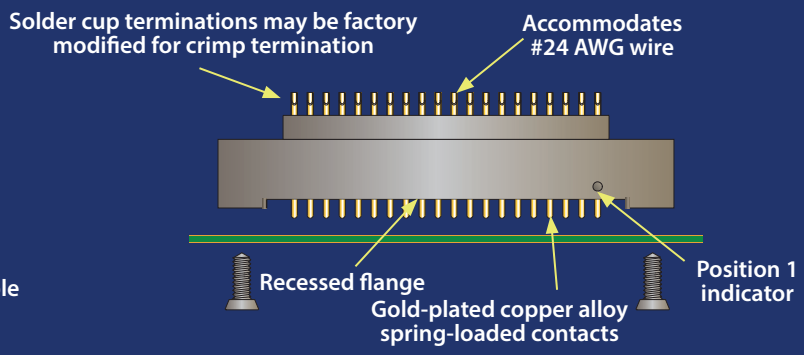
AlphaLink® SL Board Connectors

Rugged I/O to spring-pin contact board-mount connectors and turnkey flex assemblies

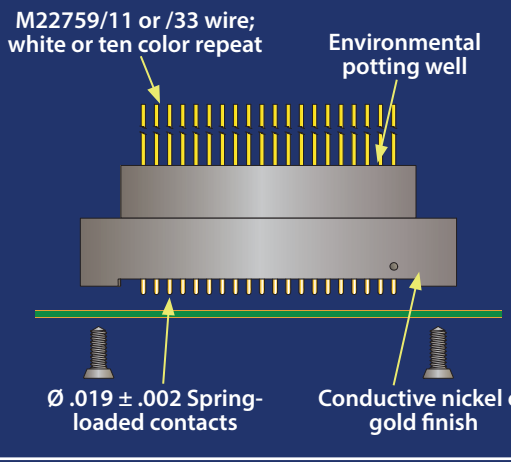
AlphaLink® SL Spring-Loaded Contact Interface



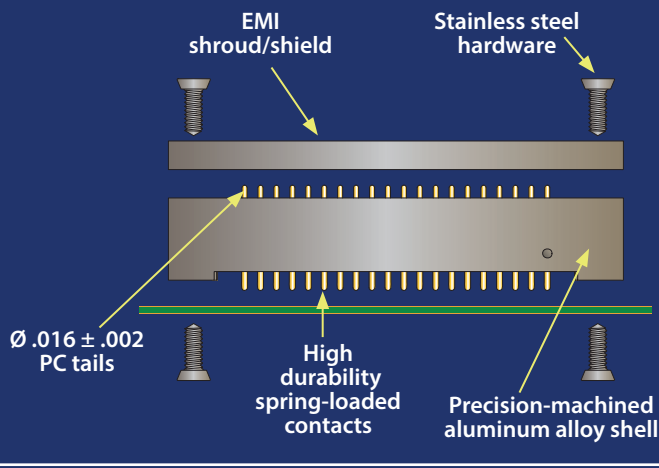
171-134-01 Solder Cup Termination



171-134-03 Wire Pigtail Termination



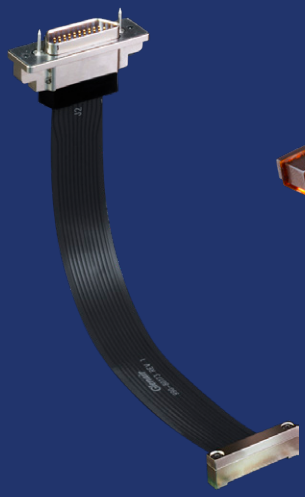
171-134-02 PC Tail Termination



ALPHALINK® SL SOLDER-FREE I/O-TO-BOARD POINT-TO-POINT JUMPERS

Series 89 Rectangular Nanominiature-to-AlphaLink SL flex jumper (rear-panel-mount plug or receptacle)

High-reliability Micro-D MIL-DTL-83513 type rectangular-to-AlphaLink SL flex jumper



Series 79 Micro-Crimp advanced-performance rectangular-to-AlphaLink SL flex jumper

Series 28 HiPer-D -to-AlphaLink SL flex jumper (MIL-DTL-24308 intermateable rectangular)

A GLENAIR SIGNATURE

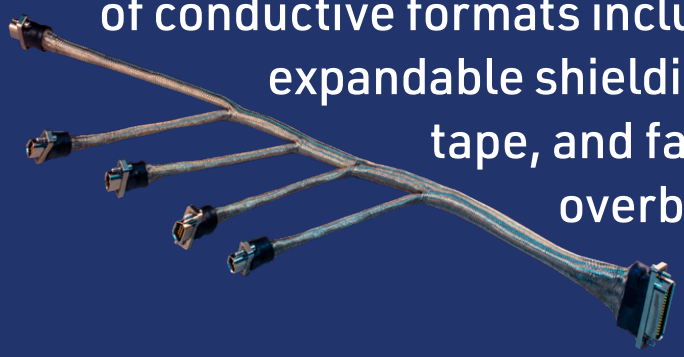
High-Rel Cable Assembly

CRITICAL COMPONENT

ARMORLITE™

Microfilament nickel-clad expandable stainless steel EMI/RFI overbraided and tubular cable shielding

ArmorLite™ is an expandable, flexible, high-strength, conductive stainless-steel microfilament braid material designed for use as EMI/RFI shielding in high-performance wire interconnect systems. ArmorLite™ is packaged in a wide range of conductive formats including bulk expandable shielding, mesh tape, and factory overbraiding.



- **Ultra-lightweight EMI/RFI braided sleeving for EMC and lightning strike applications**
- **Best performing metallic braid during lightning tests (IAW ANSI/EIA-364-75-1997 Waveform 5B)**
- **Microfilament stainless steel: *70% lighter* than NiCu A-A-59569/QQB575**
- **Outstanding EMI/RFI shielding and conductivity**
- **ArmorLite™ CF with enhanced corrosion protection**
- **Superior flexibility and "windowing" resistance: 90 to 95% optical coverage**
- **70,000 psi (min.) tensile strength**

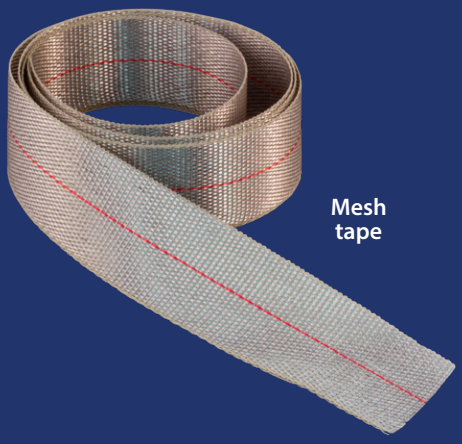
LIGHTWEIGHT, FLEXIBLE

ArmorLite™ Microfilament Braided Shielding

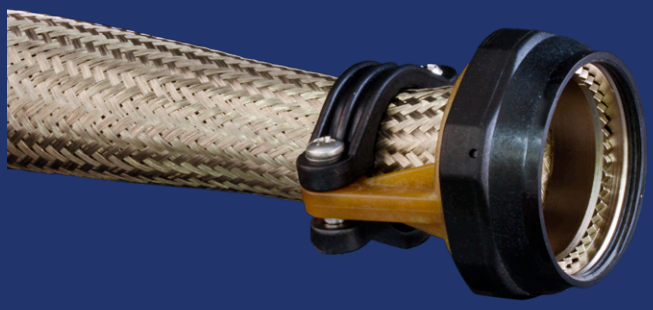
Lightweight · non-windowing · corrosion-resistant
Composite thermoplastic AmberStrand® for additional weight reduction

ARMORLITE™ SHIELDING SOLUTIONS AND PACKAGING

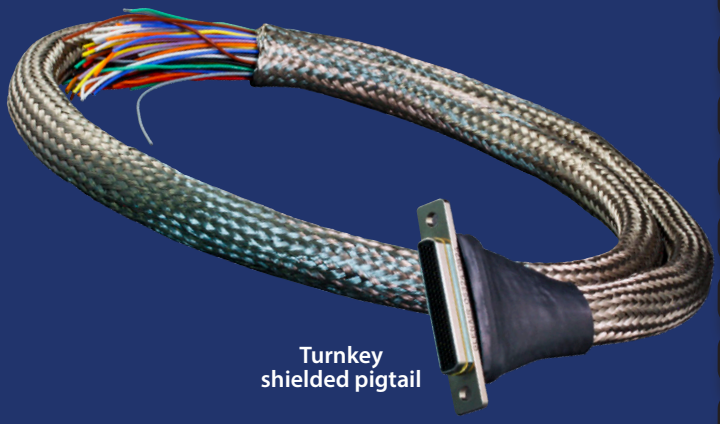
Factory overbraided



Mesh tape

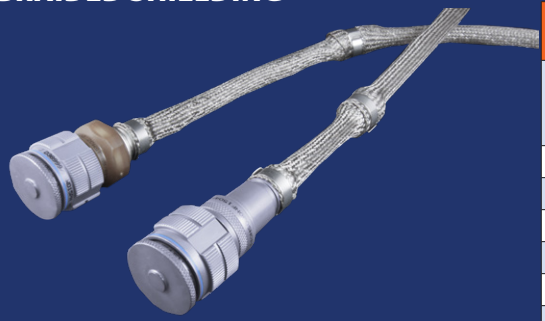


Integrated shield sock



Turnkey shielded pigtail

ALSO AVAILABLE FOR ADDITIONAL WEIGHT SAVINGS: AMBERSTRAND METAL-CLAD COMPOSITE BRAIDED SHIELDING



AmberStrand®

AMBERSTRAND® 100% VS. NICKEL-COATED COPPER			
Braid Dia.	AmberStrand® 100% 103-026 (g/ft.)	Nickel-Copper 100-003 (g/ft.)	% Weight Savings/ Foot
.062	.6	1.9	68%
.125	1.0	4.8	79%
.250	1.8	16.1	88%
.375	2.3	18.5	87%
.500	3.7	22.3	83%
.625	4.4	27.7	84%
.750	5.2	34.3	85%
1.000	8.0	35.0	77%

AMBERSTRAND® 75% VS. NICKEL-COATED COPPER			
Braid Dia.	AmberStrand® 75/25% NiCu 103-027 (g/ft.)	Nickel- Copper 100-003 (g/ft.)	% Weight Savings/ Foot
.062	.9	1.9	52%
.125	1.5	4.8	68%
.250	2.4	16.1	85%
.375	3.9	18.5	79%
.500	5.4	22.3	76%
.625	6.4	27.7	77%
.750	7.2	34.3	79%
1.000	11.0	35.0	69%

A GLENAIR SIGNATURE

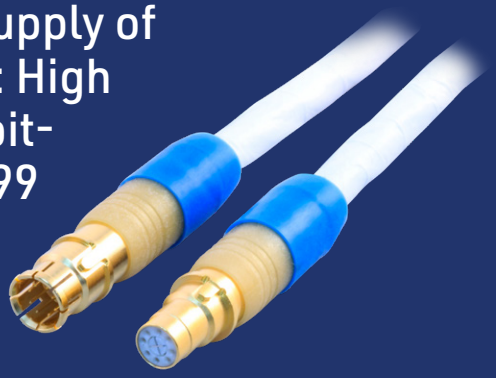
High-Rel Cable Assembly

CRITICAL COMPONENT

QPL qualified

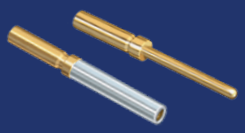
AS39029 and Glenair Signature Power, Signal, and Datalink Contacts

Glenair brings a new perspective to the supply of its signature high-performance contacts: High Availability! Whether you need a 10 Gigabit-ready octaxial contact for a MIL-DTL-38999 Series III, or the industry's best high-amperage power contact solution, we've got you covered with easy-to-terminate and install products that are always in stock – with no dollar or quantity minimums.

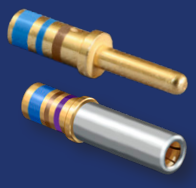


AS39029 SIGNAL CONTACTS

Standard density signal

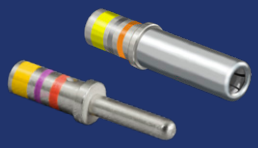


High-density signal (up to 1500 cycles)



Extended-duty signal

Printed circuit board signal



Thermocouple

LOW-LOSS, MATCHED-IMPEDANCE RF AND MICROWAVE CONTACTS

Size #12 50 Ohm contacts

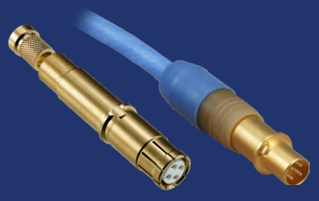
Size #12 75 Ohm contacts

Size #12 spring-loaded SMPM microwave contacts

Size #8 spring-loaded BMB microwave contacts

HIGH-SPEED DATALINK CONTACTS FOR ARINC, 38999, AND OTHER CONNECTORS

VersaLink "zero-crosstalk" twinax contacts



Size #8 quadrax contacts

Size #8 El Ochito® octaxial contacts

Octobyte™ Ethernet Cat7A contacts

AS39029 Multi-Pin Connector Contacts

Crimp, PC-tail, and solder-cup contacts, plus Glenair signature high-speed digital, RF, power, and optical termini technologies

AS39029 RF CONTACTS

Size #16 coaxial contacts

Size #12 coaxial contacts

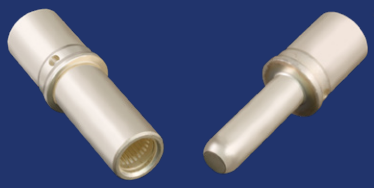
Size #8 coaxial contacts

Size #8 concentric twinax contacts

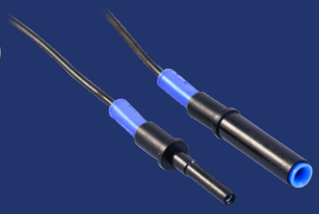
POWER CONTACTS

Crown Ring power

Size #8 power

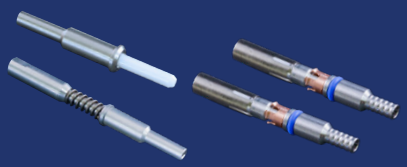


LouverBand™ power



kV Seal High-voltage

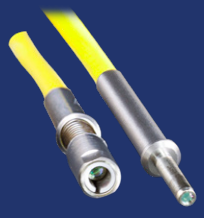
FIBER OPTIC TERMINI



MIL-DTL-29504 QPL termini

Glenair High-Density (GHD) and Front-Release (GFR) termini

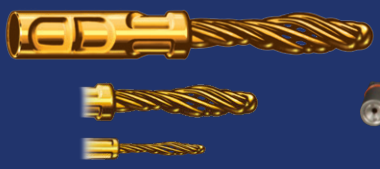
GFOCA genderless termini IAW M83526



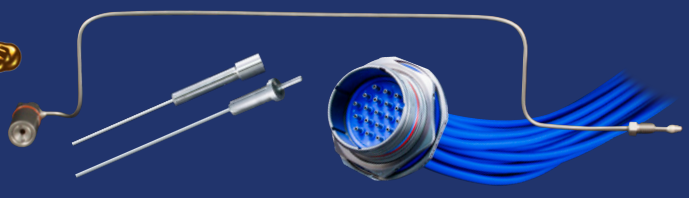
Eye-Beam® GLT grin lens termini

SPECIAL PURPOSE CONTACTS AND PURE GAS TUBE CONTACTS/ASSEMBLIES

Pneumatic contacts for pitot applications



Low-resistance TwistPin contacts: micro, nano, D-sub, crimp, and factory-terminated



High-pressure (10K psi) gas tube contacts and assemblies

A GLENAIR SIGNATURE

High-Rel Cable Assembly

CRITICAL COMPONENT

Assembly Tools: Banding · Grounding · Crimping · Mounting · Termination · Testing

GROUNDCONTROL EARTH BOND

Hydraulic Earth Bond setting tools for aluminum and stainless steel plate

Bi-laminar (copper core) earth bonds

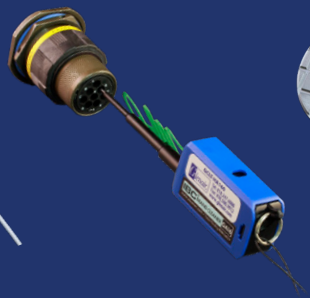
Available dynamometer

Used for ground strap bonding and equipment rack installation

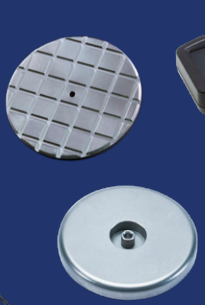
FIBER OPTIC TERMINATION AND TEST TOOLKITS

Turnkey fiber optic termination and maintenance kits

Inspection and test probes and adapters



Dry-wipe fiber optic cleaning tools



Fiber optic polishing pucks

Video scope inspection kits

CABLE SHOP / MRO

Assembly Tools for EWIS Applications

Banding · grounding · crimping · mounting · termination · testing

CRIMP TOOLS

M22520 crimp tools

Locators and accessories

Crimp contact insertion and removal tools

BACKSHELL-TO-CONNECTOR MOUNTING TOOLS

TG70 universal strap wrench

Circular backshell assembly wrenches

Connector holding tool kits and wrenches

Soft jaw pliers

Bench-mount tools for volume production

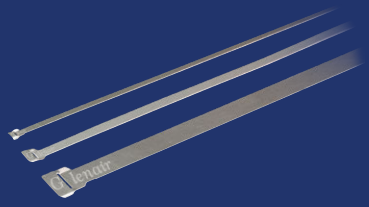
Band-Master ATS® EMI/RFI CABLE SHIELD TERMINATION SYSTEM

Micro-Max for use with high-tension, low-resistivity Micro-Max Bands

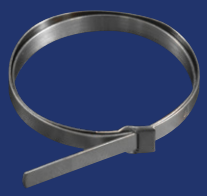
Micro Slim for use with lightweight, reduced-thickness Micro Slim Bands

Nano: narrowest width, smallest size, and lightest weight shield termination band system

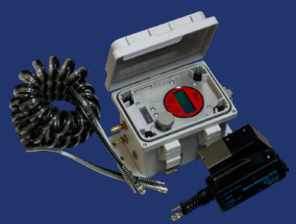
Slim Standard for use with lightweight, reduced-thickness Slim Standard Bands



Each tool accommodates a specific width of band (nano, micro, or standard)



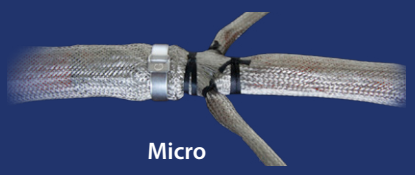
Bands are supplied precoiled for high-volume assembly operations



Special high-volume pneumatic tool for bench use, available for all sizes

The only banding tool with a built-in calibration counter

Nano



Micro

Standard

Bands and tools optimized for size and weight reduction across the complete range of connector, backshell, and cable form factors

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

OPTIMIZED
FOR USE WITH
turboflex®
THE ULTRA FLEXIBLE RUGGED POWER CABLE

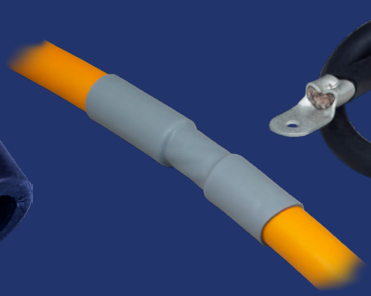
AUTOSHRINK™

Fast and easy cold-action shrink boot and tubing solutions for wire and cable protection

Autoshrink™ is a rugged, one-piece shrink boot and tubing solution designed for fast, reliable sealing and protection in harsh military and industrial environments. Made from UV-, ozone-, and chemical-resistant Duralectric™ material, it offers quick installation with an easy-action spiral hold-out and high shrink ratio. Use Autoshrink to attach boots, insulate splices, or repair cable jackets. Available in straight, 45°, and 90° lipped versions that lock into adapter grooves to block debris. Universal Autoshrink tubing provides durable mechanical protection and a fully hydrophobic seal for cable-end terminations.

- **Straight, 45°, and 90° angle-lipped shrink boots and shrink tubing**
- **Fast and easy installation**
- **Four high-performance material types**
- **Fire-resistance in all material types**
- **Reliable IP68 sealing**
- **3000 VAC rated**
- **Multiple color options**
- **Service temperature range: -65°C to 300°C**
- **Ideal for repair of cables and conduit with Duralectric jacketing**
- **Extreme UV / sunlight resistance**
- **Integrated ground strap versions available**

Mil-Aero / Industrial fluid-resistant lipped shrink boots



Fast and easy repair of Duralectric-jacketed cables

Utilize for termination of lugs on new installations

SERIES 77 COLD-ACTION

AutoShrink Boots and Tubing

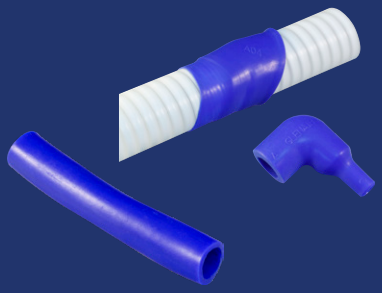
Four material types for high UV plus LSZH, fluid resistance, temperature tolerance, and submersible use

AUTOSHRINK D UV-RESISTANT / LSZH SHRINK BOOTS AND TUBING

Autoshrink D is a high-performance elastomeric material (Glenair Duralectric™ formula polymer GPS67) cold-action shrink boot and jacket solution for general-purpose use in military and commercial aerospace electrical wire interconnect systems and other harsh wire protection, sealing, and repair applications.

- **Service temperature range: -65°C to 225°C**
- **Fire resistant and Low Smoke-Zero Halogen (LSZH)**
- **General-purpose resistance to common aerospace, military, and industrial fluids**
- **Tubing available with integrated ArmorLite ground strap**

AUTOSHRINK F ADVANCED FLUID RESISTANT SHRINK BOOTS AND TUBING



Autoshrink F is a high-performance elastomeric material (Glenair Duralectric™ F formula polymer GPS125) cold-action shrink boot and jacket solution for application-specific use in military and commercial aerospace electrical wire interconnect systems and other harsh wire protection, sealing, and repair applications. Autoshrink F is highly resistant to aircraft industry jet fuels, oils, solvents, and cleaners.

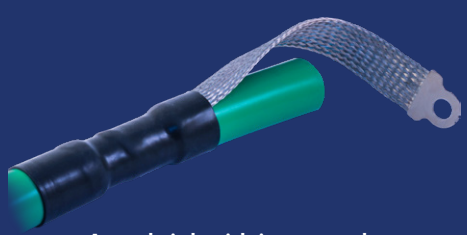
- **Service temperature range: -65°C to 200°C**
- **Fire resistant and suitable for immersion in jet fuel, diesel, lubricants, and solvents**

AUTOSHRINK T HIGH-TEMPERATURE-TOLERANT SHRINK BOOTS AND TUBING

Autoshrink T is a high-performance rubber material (Glenair ThermaRex formula GPS139) cold-action shrink boot and jacket solution for use in high-temperature applications in military and commercial aerospace electrical wire interconnect systems and other harsh-environment wire protection, sealing, and repair applications.

- **Service temperature range: -65°C to 300°C**
- **Fire resistant and low smoke-zero halogen (LSZH)**
- **Resistant to common aerospace, military, and industrial fluids**

PROCESS-AND-LABOR-SAVING SPECIAL CONFIGURATIONS FOR EWIS APPLICATIONS



Autoshrink with integrated braided ground strap

2-to-1 Autoshrink cold-shrink transition boot

Autoshrink piggyback boot with integrated shield braid sock

A GLENAIR SIGNATURE

High-Rel Cable Assembly

CRITICAL COMPONENT

Backshells

Circular backshell and accessory designs for weight reduction, life-of-aircraft durability, and optimal reliability

Lightweight, thin-wall metal backshells with up to 40% weight savings

Innovative connector backshell solutions for environmental sealing, wire management, strain relief, and EMC shield termination

Glenair is the go-to design partner for innovative solutions to electrical wire interconnect system (EWIS) problems in airframe applications. Our backshell and connector accessory design engineers are responsible for more problem-solving innovation in our industry than every other connector accessory supplier combined. Take our extensive composite thermoplastic connector accessory series, for example. Glenair can supply the lightest weight solution for all EWIS cable routing, shield termination, environmental sealing, and cable strain relief applications—all in conductively-plated engineering thermoplastic.

Composite thermoplastic backshells and strain reliefs reduce weight and improve durability

GLENAIR: MASTERS OF THE BACKSHELL UNIVERSE

- **High-performance circular connector accessories for every environmental, mechanical, and electromagnetic shielding requirement**
- **Tens of thousands of innovative part numbers in inventory ready for same-day shipment**
- **Fast turnaround on made-to-order accessories, typically only two to three weeks**
- **Constant, relentless backshell innovation**

METAL AND COMPOSITE

Backshells and Accessories, Circular

Unique, problem-solving backshells, protective covers, and other circular connector accessories for rugged aerospace applications

CABLE CLAMPS, ENVIRONMENTAL BACKSHELLS, AND EMI/RFI SHIELD TERMINATION ADAPTERS

Split-shell and snap-lock banding backshells

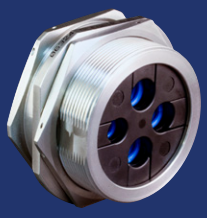
Swing-Arm FLEX 3-in-1 articulating strain relief

Piggyback boot Band-in-a-Can

Drop-in EMI/RFI shield termination configurations

FEED-THRU FITTINGS

Pressure boundary composite feed-thru



Firewall pressure boundary feed-thru

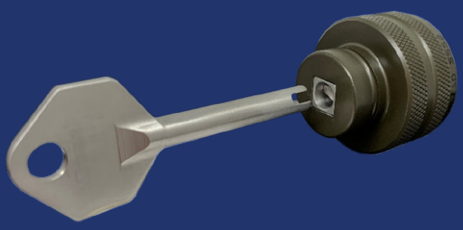
EMI/RFI split-shell metal feed-thru

DUST CAPS AND PROTECTIVE COVERS

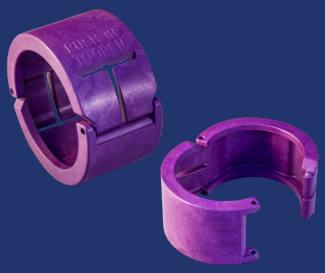
Standard and self-locking protective covers

Lightweight composite protective covers

INNOVATIVE NEW BACKSHELLS AND CONNECTOR ACCESSORIES

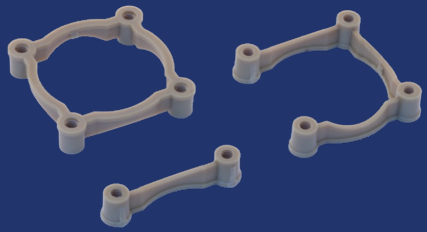


Tamper-proof protective covers



Connector coupling ring safety sleeve for F/O applications

Heat shrink boot / wire routing clamp assembly



FOD-Free, non-conductive composite nut plates

High-reliability composite transit covers

SplayMaster™ high-speed / RF cable and contact organizers

B C D E F G H I J K L M N O P Q R S T U V W X Y Z

A GLENAIR SIGNATURE

Complex Cable Assembly

CRITICAL COMPONENT

Backshells

Rectangular backshell and accessory designs for weight reduction, life-of-aircraft durability, and optimal reliability

Proven-performance backshells and accessories for rectangular connectors

Glenair offers more tested and tooled rectangular interconnect products—including the world's broadest range of rectangular backshells—than any other supplier in the industry. Simply put, from the smallest Micro-D subminiature to the largest ARINC 600, Glenair has an unparalleled range of solutions. Need something light and corrosion free? Glenair is the industry leader in tooled composite thermoplastic connector accessories.

- **All forms of environmental, mechanical, and EMC backshells**
- **Straight, 45°, and 90° cable routing**
- **High-temp composite thermoplastic and metal shell versions to fit all current and legacy rectangular connectors**
- **Innovative split-shell versions for easy access to wire terminations**
- **Equally large range of protective covers and caps**
- **Thousands of part numbers in stock and ready for immediate shipment**

QWIKSNAP™

Glenair has developed an extensive range of lightweight Split-Shell backshells that completely eliminate assembly hardware in rectangular backshells. The Glenair QwikSnap™ series utilizes innovative composite spring latch technology to reduce weight, FOD, and accelerate assembly.

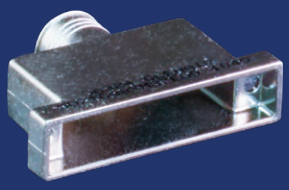
METAL AND COMPOSITE

Backshells and Accessories, Rectangular

For cable-to-connector environmental, EMI/RFI, and strain relief protection
Protective covers and caps for all rectangular connector series

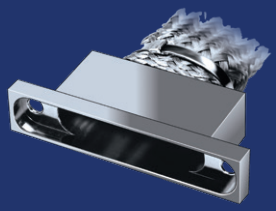
MICRO-D AND NANO BACKSHELLS AND PROTECTIVE COVERS

Composite Micro-D banding backshell



Split-shell banding backshell

Micro-D backshell with elliptical banding platform



Metal Micro-D banding backshell

Plastic caps and covers for safe connector shipment and storage

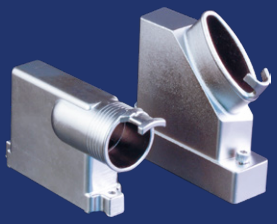
Environmental protective covers for Micro-D connectors

Conductive rubber covers

M24308 D-SUB SOLUTIONS: HIGH PERFORMANCE, RUGGEDIZED D-SUBMINIATURE PRODUCTS

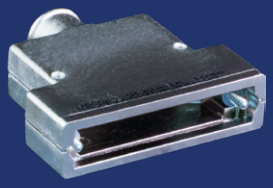
Meta-Loc™ quick-lock / quick-release backshell

Split-shell M24308 composite backshell



Composite D-subminiature backshells

Flex-D Composite M24308 Backshell

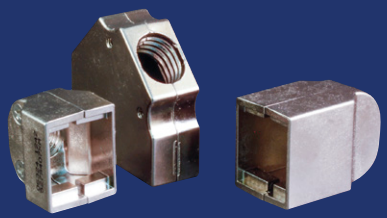


M24308 EMI/RFI backshell

LARGER FORM FACTOR RECTANGULAR BACKSHELLS

EPX® and EPXB® are registered trademarks of Radiall

Composite EMI/RFI banding backshell for EPXB® connectors

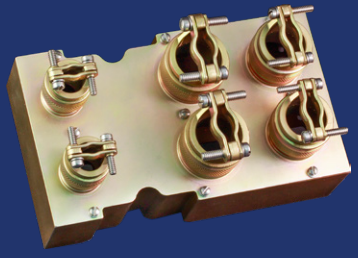


Composite EN4165 fiber optic/electrical backshells

Backshells for EPX® series connectors

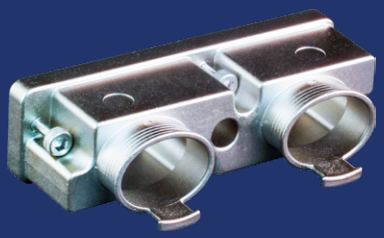
ARINC series backshells

Composite airframe banding backshell



ARINC series backshell with individual wire bundle strain relief

MIL-C-81659 Qwik-Ty banding backshell



Special Quadrax connector backshell

B C D E F G H I J K L M N O P Q R S T U V W X Y Z

A GLENAIR SIGNATURE

High-Rel Cable Assembly

CRITICAL COMPONENT

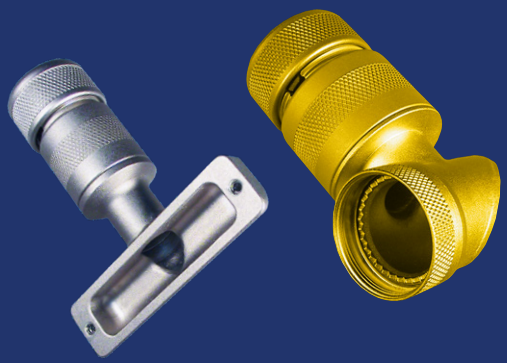
Backshells

Space-grade EMI shield termination backshells for satellite wire harnesses

The International Space Station
Photo: NASA

Space-Grade Shrink Boots GTS 4123: heat-shrinkable fluoropolymer alloy shrink boots for operating temperature range -50°C to 175°C

Circular and rectangular backshells and connector accessories: corrosion resistance, weight reduction, environmental durability, and design innovation for space harness applications



The Glenair Qwik-Clamp connector accessories shown here are used on the International Space Station. The gold-plated circular part is extremely resistant to space corrosion and radiation. Both styles are designed with smooth surfaces to eliminate potential damage to space suits.

- **High-performance connector accessories for every environmental, mechanical, and electromagnetic shielding requirement**
- **NASA, ESA, and JAXA screened and qualified to AS85049, SSQ 21635, 21636, 22698, 22681, and other standards**
- **Modern designs for bus applications, line cards, instrument panels, and non-circular bundles**
- **Lightweight composite materials available**
- **Removable-entry solutions with split shells and integrated banding platforms**

MICRO-D AND D-SUBMINIATURE

Backshells for Space Applications, Circular and Rectangular

NASA · ESA · CSA · JAXA

COMPOSITE DESIGN INNOVATION RADICALLY REDUCES INTERCONNECT SYSTEM WEIGHT

Band-in-a-Can backshell

Swing-Arm with banding insert

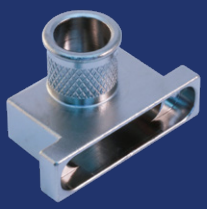
Mighty Mouse composite

Isolated conductive ground path

SPACE-GRADE MICRO-D AND D-SUBMINIATURE BACKSHELLS AND ACCESSORY HARDWARE

Single, dual, and triple entry

Angled entry

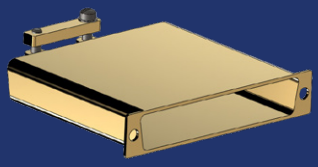


Side entry

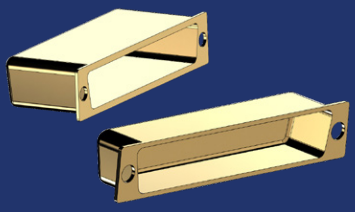
Elliptical entry

Composite split shell

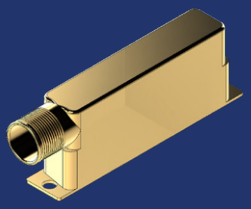
ESCC TYPE FOR MIL-DTL-24308 D-SUB ESA APPLICATIONS IAW ESCC 3401/072



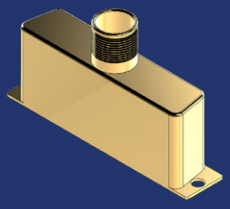
Strain Relief IAW ESCC 3401/072, Type Variants 05, 06, 07, 08, 09, and 72



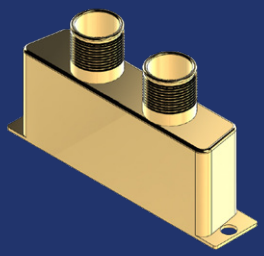
Shorting Cans IAW ESCC 3401/072, Type Variants 10, 11, 12, 13, 14, 73 / 61, 62, 63, 64, 65, 80



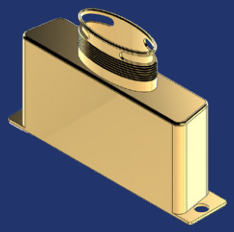
90° EMI/RFI Banding Backshell IAW ESCC 3401/072, Type Variants 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, and 76



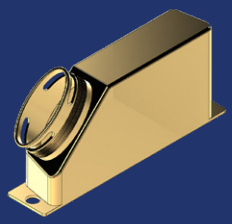
Straight EMI/RFI Banding IAW ESCC 3401/072, Type Variants 35, 36, 37, 38, 39 and 77



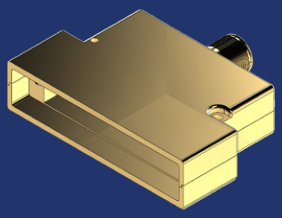
Dual Entry IAW ESCC 3401/072, 40 Type Variant



Elliptical Entry IAW ESCC3401/072, Type Variants 46, 47, 48, 49, 50, and 78



45° Elliptical IAW ESCC3401/072, Type Variants 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, and 79

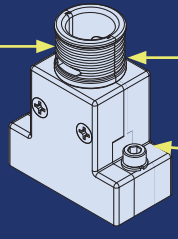


Straight IAW ESCC 3401/072, Type Variants 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 74, and 75

REMOVABLE-ENTRY AND CABLE CLAMP BACKSHELLS: 557-652 AND 557-653

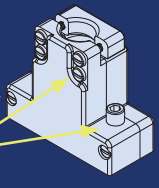
Removable round cable entry banding version

Removable entry with anti-rotation feature remains captive during assembly

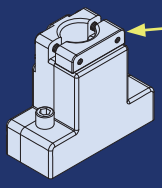


Tongue-and-groove split-shell design for superior EMC performance and ease-of-assembly

All captive hardware—no FOD—even when backshell is split



Cable clamp version



Ultra low-profile cable clamp design

A GLENAIR SIGNATURE

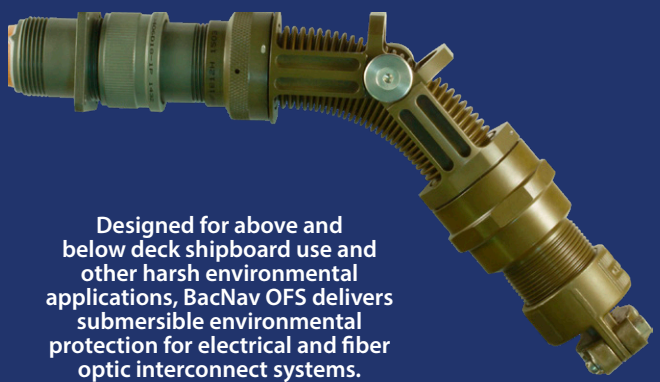
High-Rel Cable Assembly

CRITICAL COMPONENT

BacNav OFS

Repositionable backshell for harsh-environmental applications plus QPL feedthroughs and boots

Designed for use in rugged shipboard applications as well as military ground systems, BacNav OFS delivers outstanding mechanical, electrical, and environmental performance. The innovative design incorporates an environmentally-sealed, EMI shielded core with a locking pivot that facilitates cable routing and eliminates the need to stock discrete straight, 45°, and 90° variants of standard shield termination backshells. Built to withstand rough handling in topside and below-deck electrical and fiber optic interconnect systems, the BacNav OFS is purpose-designed to deliver life-of-ship and life-of-system performance and durability. Available for the broad range of power, signal, and fiber optic connector systems—including MIL-PRF-28876 and MIL-PRF-64266 (fiber optics) to MIL-DTL-28840, AS50151, and more—BacNav OFS meets every current requirement for backshell-equipped connectorized cabling.



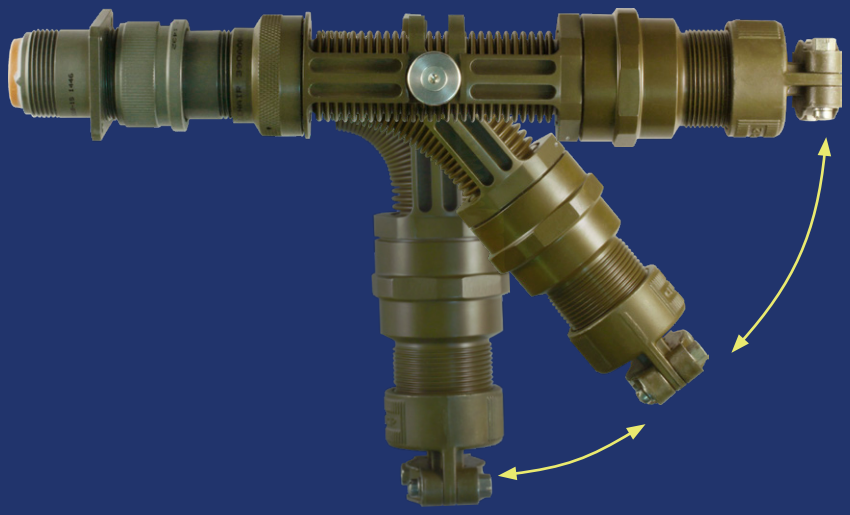
Designed for above and below deck shipboard use and other harsh environmental applications, BacNav OFS delivers submersible environmental protection for electrical and fiber optic interconnect systems.

- **Easy repositioning from straight, 45°, and 90° cable-exit orientations**
- **Submersible performance without the need for shrink boots**
- **Durable, flexible EMI/RFI and environmentally-sealed core with locking-pivot Swing-Arm™ frame**
- **Accommodates power, signal, and fiber optic jacketed cables**
- **Reposition terminated cables with no impact on signal integrity or system performance**
- **Easy repeatable assembly process using standard tools**

SERIES 390

BacNav OFS Repositionable Harsh-Environment Backshell

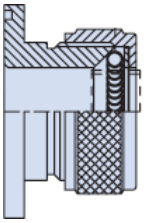
Submersible · shielded · articulating with locking pivot



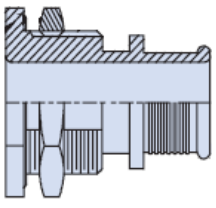
BacNav OFS is the only fully-sealed EMI/RFI backshell and strain relief device that delivers fast and easy cable angle configuration in the field—using a common 7/64" hex wrench and without decoupling from the connector and/or cable. The sealed, flexible connector backshell adjusts to straight, 45°, and 90° cable angles with zero impact on signal integrity or system performance.

PERFORMANCE DATA		
DESCRIPTION	**REQUIREMENT**	**STANDARD**
Magnetic permeability	Less than 2.0µ	EIA-364-54
Shell conductivity	< 2.5 milliohms[2]	EIA 364-83
Salt spray (corrosion)	No exposure of basis material as defined in AIR4789 for 500 hours[2]	EIA 364-26
Vibration	CIT <0.5dB No discontinuities[1] No damage	MIL-STD-167-1A (SHIPS), paragraph 5.1.2.4.6 (endurance test)
Shock	CIT <0.5dB No discontinuities[1] No damage	MIL-S-901D, grade A, Class 1
Water pressure	10 meters for 48 hours (IP68)	QTP-384
Cable pullout	No slippage exceeding 1/8" CIT <0.5dB[1]	EIA 364-38 TIA-455-6
Coupling thread strength	No damage at 3X magnification	AS85049 (Heavy Duty)
External bending moment	300-750 in-lbs (size dependent)	AS85049 (Heavy Duty) QTP-384
Fluid immersion	No changes detrimental to performance[2]	EIA 364-10
Insertion loss	MIL-STD-1678-2 Appendix C, Table 2101 C-I	TIA-455-34 Method A
Cable seal flexing	100 cycles/axis	TIA-455-1
Twist	50 cycles • No damage/leaks	TIA-455-36
Impact	8 drops • No damage detrimental to performance	TIA-455-2 Method B
Crush	7 cycles 1,250 N (281 lbs)	TIA-455-26
Thermal Shock	5 cycles -40°C to +85°C (-40°F to +185°F)	TIA-455-71
Temp/humidity cycling	No damage detrimental to performance	TIA-455-5 Method B
Temperature cycling	No damage detrimental to performance	TIA-455-3
Life Aging	10 cycles	QTP-384-F
Freezing water immersion	No damage detrimental to performance	TIA-455-98
Sand and dust	No damage detrimental to performance	TIA-455-35
Modified SO2/salt spray	240 hours • No damage detrimental to performance[2]	ASTM G85 + Annex A4
[1] Tested with MIL-PRF-28876 Multi-mode Fiber-Optic connectors [2] Tested with Cadmium/Olive-Drab finish option (code NF)		

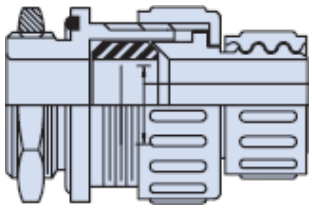
NAVSEA-QUALIFIED SHIPBOARD WIRE AND CABLE FEED-THRUS AND ZERO-HALOGEN BOOTS



Electrical and fiber optic bulkhead feed-thru fittings



Band adapter feed-thru fittings



Composite conduit and shrink boot feed-thru adapters

NAVSEA heavy-wall zero-halogen polyolefin shrink boot

A GLENAIR SIGNATURE

High-Rel Cable Assembly

CRITICAL COMPONENT

Band-Master ATS®

Light weight • high-tension • low-resistance shield termination bands and tools

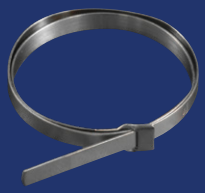
Industry Advisory RE: Shield Termination Bands and Tools

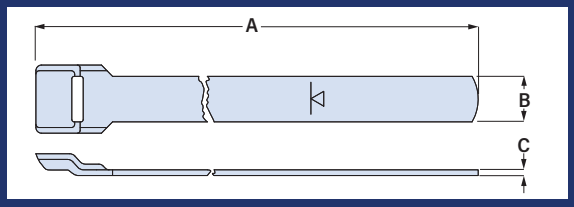
Precision bands and tools are exactingly dimensioned and calibrated for repeatable, reliable performance. But like many such equipment pairings, the products ONLY deliver 100% compatibility when used in tandem. The proliferation of counterfeit band straps, sold with Glenair part numbers but manufactured offshore, is a troubling industry development. Tie-Dex® II banding tools supplied by Glenair will not function properly with any other make of band than those supplied by Glenair. Likewise, Glenair Band-Master ATS® bands are not engineered to work in any tool other than the hand-operated and bench-mount series manufactured by Band-IT® IDEX. To that end, this industry advisory is intended as formal notification that the improper mixing of non-compatible band straps and tooling will void any warranty offered by Glenair, and in our experience, will absolutely lead to tool damage and sub-standard shield terminations. Should you have any question about this notification, please do not hesitate to contact Glenair at banditttools@glenair.com.

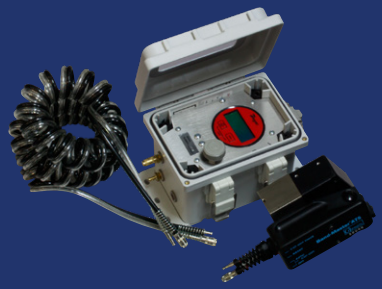
Band-Master ATS® System Overview

Band-Master ATS® EMI shield termination system instruction manuals and calibration details: www.glenair.com/bandmaster

For rapid and reliable termination of cable braid shielding to connectors and adapters. Made in America from 304 series passivated stainless steel. Easy installation with hand tool or high-production bench-mounted pneumatic tool. Recommended bands supplied in four width configurations: *Nano* (.075" width, smallest overall size); *Slim Standard* (.24" width, lightest standard band weight); *Micro Slim* (.12" width, lightest micro band weight); and *Micro-Max* (.12" width, 60% higher tensile strength). All Glenair Band-Master bands available pre-coiled.







High Volume Pneumatic Tool

Recommended Pneumatic Banding Tool Part Numbers

Micro-Max	Micro-Max pneumatic banding tool with counter	**601-130**
Micro Slim	Micro Slim pneumatic banding tool with counter	**601-123**
Nano	Nano pneumatic banding tool with counter	**601-118**
Slim Standard	Slim Standard pneumatic banding tool with counter	**601-110**

MADE IN AMERICA

Band-Master ATS® Shield Termination Bands and Tools

Industry-leading · guaranteed quality · reliable performance

RECOMMENDED HIGHEST-PERFORMANCE SIZES AND STYLES

Micro-Max: 601-129 Band-Master ATS® Micro-Max with Counter for use with high-tension, low-resistivity Micro-Max Bands

Designed for use with high-tension Micro-Max .120" width clamping bands. Micro-Max is designed for shield termination requirements to a higher tension range from 100-180 lbs. resulting in lower-resistivity shield termination. Calibrate at 132 ± 3 lbs. for most shield terminations.

Micro Slim: 601-122 Band-Master ATS® Micro Slim with Counter for use with lightweight, reduced-thickness Micro Slim Bands

Micro Slim bands are narrower width and are better at conforming to irregular platform shapes (elliptical platforms) and individual braid buildup (pig tails). Designed for Micro Slim .120" width clamping bands in a tension range from 60 to 90 lbs. Calibrate at 82 lbs. ±3 lbs. for most terminations.

Nano: 601-108 Band-Master ATS® Nano with Counter. The industry's narrowest width, smallest size, and lightest weight shield termination band system

Nano bands are the industry's narrowest width, smallest size, and lightest weight shield termination bands. Designed for use with Nano .075" width clamping bands in a tension range from 25 to 90 lbs. Calibrate at 50 lbs. ± 3 lbs. for most shield terminations.

Slim Standard: 601-109 Band-Master ATS® Slim Standard with Counter for use with lightweight, reduced-thickness Slim Standard Bands

Slim Standard bands are 50% lighter and 50% lower-profile than standard bands and maintain similar performance. Slim Standard bands are better at conforming to irregular platform shapes (elliptical platforms) and individual braid buildup (pig tails). Tension range is 30 – 80 lbs. Calibrate at 100 lbs. ± 3 lbs of linear pull.

Glenair Band-Master ATS® system tools and bands have been made in America in partnership with Band-IT® IDEX for over four decades and are the trusted, reliable solution for aerospace-grade cable shield termination.

Recommended Band Part Numbers

Size	A Length in	A Length mm	Fits up to Dia. in	Fits up to Dia. mm	B Width in	B Width mm	C Thickness in	C Thickness mm	Part Number Pre-coiled	Hand Tool Part Number
Micro-Max	8	203	.88	22.4	.12	3.0	.015	0.4	601-701	601-129
	14	356	1.88	47.7	.12	3.0	.015	0.4	601-703	
Micro Slim	8	203	.88	22.4	.12	3.0	.01	0.3	601-601	601-122
	14	356	1.88	47.7	.12	3.0	.01	0.3	601-603	
Nano	6	152	.60	15.2	.075	1.9	.009	0.9	601-501	601-108
	9	229	.94	23.9	.075	1.9	.009	0.9	601-505	
	14	356	1.80	45.7	.075	1.9	.009	0.9	601-509	
Slim Standard	9	228	.94	23.9	.24	6.1	.01	0.3	601-571	601-109
	14	355	1.80	45.7	.24	6.1	.01	0.3	601-573	

BLUMARK COAX CABLES RF™

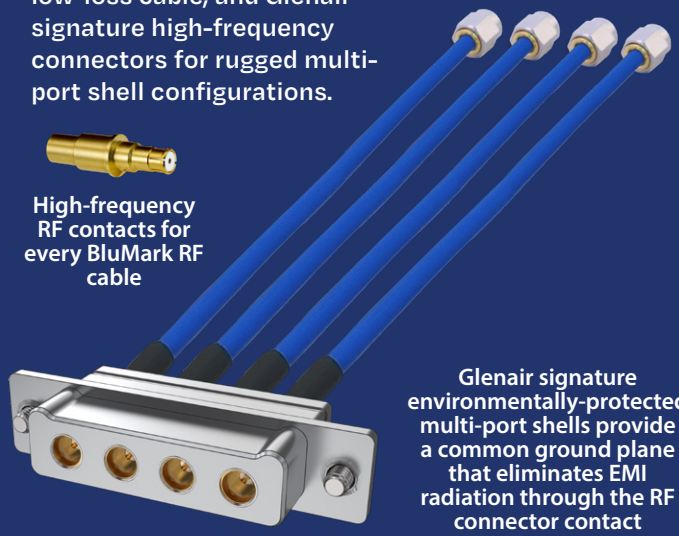
BluMark RF Low-Loss 50 Ohm Coax Cables are suitable for aerospace applications and test equipment. Jacket options include FEP and radiation-resistant space-grade ETFE.

BluMark RF high-frequency, low-loss cables are available in eight size categories: 047, 086, 141, 130, 160, 200, 235, and 300. Standard jacket material is FEP. Radiation-resistant ETFE jacketing is also available for space applications. Triple-shielded high-performance cables have expanded PTFE dielectric core for low loss up to 40 GHz. Application selection is based on attenuation (loss budget), and compatibility with a particular RF / microwave connector type and size, as well as flexibility, EMI screening, weight considerations, temperature tolerance, and altitude.

Temperature changes can cause phase shift in coax cables with PTFE dielectric cores. Low Phase Change Fluoropolymer (LPCF) cables are available from Glenair that replace the PTFE core with a fluoropolymer material yielding improved phase stability over a wide temperature range.

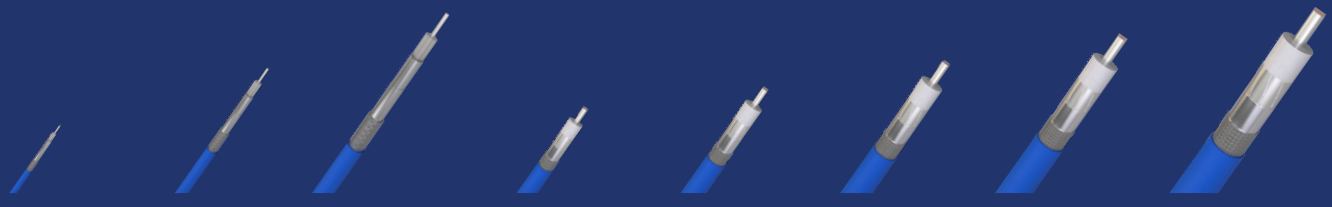
RF Cable Assemblies: Glenair is one of just a few interconnect manufacturers that can supply turnkey RF transmission line assemblies—fully connectorized and ready for immediate use—built 100% in-house with Glenair component parts. Configurations include multipin RF cable assemblies with industry-standard single-line RF connectors built around BluMark RF low-loss cable, and Glenair signature high-frequency connectors for rugged multi-port shell configurations.

High-frequency RF contacts for every BluMark RF cable



Glenair signature environmentally-protected multi-port shells provide a common ground plane that eliminates EMI radiation through the RF connector contact

BLUMARK COAX CABLES RF — GLENAIR TURNKEY RF ASSEMBLIES ARE BUILT WITH BLUMARK RF AEROSPACE-GRADE 50 OHM LOW-LOSS COAX CABLES



Size 047 40 GHz	Size 086 40 GHz	Size 141 30 GHz	Size 130 40 GHz	Size 160 40 GHz	Size 200 26.5 GHz	Size 235 26.5 GHz	Size 300 18 GHz
962-025 Series: Triple-Shielded · FEP Jacket Low phase-change PFA Dielectric			962-032 Series: Triple-Shielded · FEP Jacket Low-Loss PTFE Tape Wrapped Dielectric				

TURNKEY

BluMarkRF / Microwave Interconnect Assemblies

With Glenair signature multi-port connectors, low-loss cables, and high-frequency contacts

BLUMARK RF™ COAX CABLES

BluMark RF 50 Ohm Coax Cables are available in eight size categories. These high-frequency, low-loss, flexible cables are suitable for radar and other aerospace applications as well as laboratory test equipment. Jacket options include FEP and radiation-resistant space-grade ETFE. Triple-shielded high-performance cables have expanded PTFE dielectric core for low loss up to 40 GHz. Application selection is based on compatibility with a particular RF / microwave connector type and size, as well as flexibility, EMI screening, weight considerations, temperature tolerance, and altitude.

962-032-300

- 50 ohm size 300 (.304" diameter, .070" conductor) 26.5 GHz max. frequency low-attenuation cable
- -55°C to +200°C rated operating temperature
- FEP jacket, expanded PTFE dielectric, solid SPC center conductor
- Triple-shielded: Tape/foil/braid shield layers with >90 dB shield effectiveness

962-032-160

- 50 ohm size 160 (.161" diameter, .036" conductor) 40 GHz max. frequency low-attenuation cable
- -55°C to +200°C rated operating temperature
- FEP jacket, expanded PTFE dielectric, solid SPC center conductor
- Triple-shielded: Tape/foil/braid shield layers with >95 dB shield effectiveness

962-032-130

- 50 ohm size 130 (.131" diameter, .029" conductor) 40 GHz max. frequency low-attenuation cable
- -55°C to +200°C ratted operating temperature
- FEP jacket, expanded PTFE dielectric, solid SPC center conductor
- Triple-shielded: Tape/foil/braid shield layers with >90 dB shield effectiveness

962-025-086

- 50 ohm size 086 (.104" diameter, .020" conductor) 40 GHz max. frequency low-attenuation cable
- -65°C to +165°C rated operating temperature
- FEP jacket, PFA dielectric, solid SPC center conductor
- Double-shielded: Tape/braid shield layers

962-025-047

- 50 ohm size 047 (.056" diameter, .011" conductor) 70 GHz max. frequency low-attenuation cable
- -65°C to +165°C rated operating temperature
- FEP jacket, PFA dielectric, solid SPC center conductor
- Double-shielded: Tape/braid shield layers

BLUMARK RF COAX CABLES — SERIES 962-047 FLEXIBLE COAX CABLE, 50 OHM LOW-LOSS "THE FLEXIBLE COAX CABLE THAT WON'T WORK-HARDEN"

"Al Dente"

The 962-047 Series "Al Dente" flexible coax cable is constructed from stranded, silver-plated copper conductor, tape-wrapped insulation, and harsh-environment Duralectric jacketing. It is ideally suited for applications that need a flexible coax cable that does not work-harden with use.

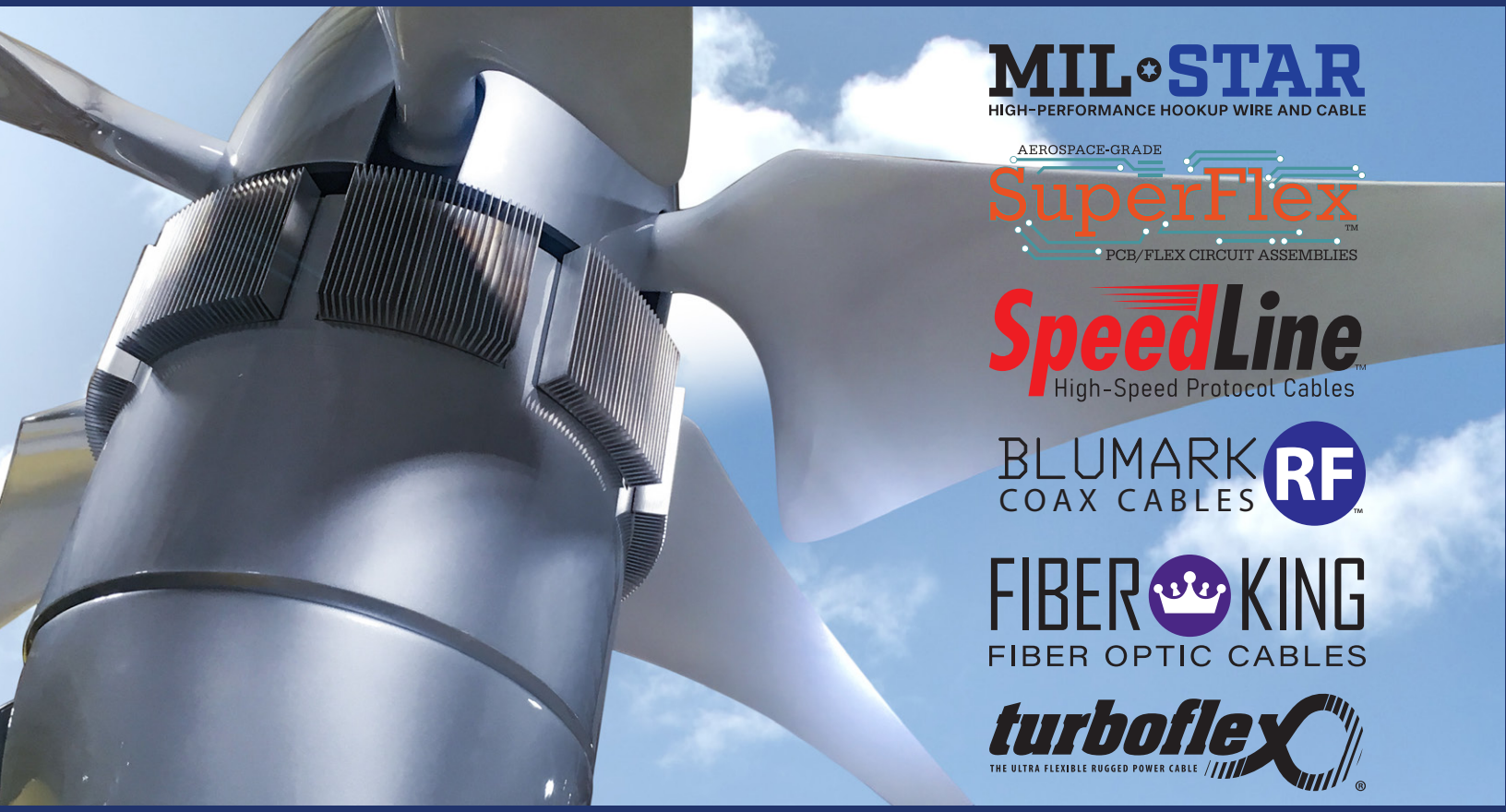
GHz	Typical Attenuation (dB/ft)
0.5 GHz	0.205
1 GHz	0.294
4 GHz	0.611
10 GHz	1.008
18 GHz	1.406
26.5 GHz	1.760
40 GHz	2.249

A GLENAIR SIGNATURE

High-Rel Cable Assembly

CRITICAL COMPONENT

Cable assemblies: aerospace-grade wire harness interconnect assemblies built with Glenair signature wires, cables, and connectors



Glenair is laser-focused on supplying airliner, business jet, rotorcraft, and eVTOL customers with harsh-environment interconnect assemblies built from Glenair MIL-STAR™, SuperFlex™, BluMark RF™, SpeedLine™, TurboFlex®, and FiberKing™ wire and cable.

Supplied in bulk—any length, with no minimum order quantity—or in fully-integrated and connectorized assemblies, Glenair wire and cable brands are optimized for the highest performance in mil-aero / defense applications.

FAST DELIVERY AND QUALITY SINCE 1956

- **3.5 million square feet factory capacity**
- **Mission-critical sea, air, land, and space interconnect product focus**
- **Vertically-integrated, all key processes controlled in-house**
- **Massive inventory of material, component parts, and finished goods**
- **Glenair worldwide QMS: AS9100D SAE / ISO 9001 certified, and customer-audited**

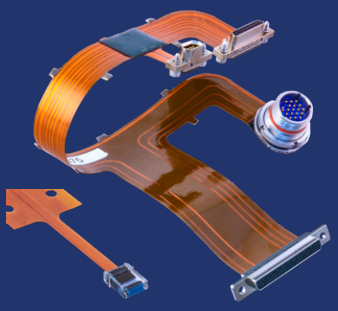
TURNKEY

Cable Assemblies

Mission-critical wire harness interconnect assemblies with 100% Glenair wire, cable, contacts, and connectors

HIGH-SPEED, HIGH-FREQUENCY, HIGH-POWER • ELECTRICAL, OPTICAL, RF, AND FLEX

MIL-STAR™ "better-than-QPL" wire interconnect assemblies



SuperFlex™ integrated PCB flex, rigid flex, and optical flex assemblies

SpeedLine™ high-speed protocol datalink assemblies

BluMark RF™ high-frequency, low-loss coax assemblies

FiberKing™ harsh-environment and inside-the-box optical assemblies

TurboFlex® high power, high flexibility cable assemblies

SPECIALTY ENVIRONMENTAL ASSEMBLIES BUILT WITH GLENAIR SIGNATURE WIRE AND CABLE

In addition to conventional land, sea, air, and space interconnect assemblies with overbraiding and overmolding, Glenair is able to supply all of our signature wire and cable brands in specialty harness designs optimized for ultra-harsh environments including high-pressure subsea, high-heat and cryogenics, and space.

High-pressure subsea (Mil-qualified and commercial Oil & Gas industry) 10K psi electrical and optical cable assemblies

High-temperature and cryogenic (ThermaRex™) wired cable assemblies

Space-grade EMI shielded and open-wire bundle assemblies built in ISO 8 and ISO 6 clean rooms

C D E F G H I J K L M N O P Q R S T U V W X Y Z

A GLENAIR SIGNATURE

High-Rel Cable Assembly

CRITICAL COMPONENT

EMI/RFI Shielding
INDUSTRY-STANDARD • METALLIC

Non-Metallic Shielding
INDUSTRY-STANDARD • HIGH-TEMPERATURE

Cable Shielding Sleeves and Overbraiding

Cable shielding sleeves: metallic EMI shielding solutions plus non-metallic materials for abrasion protection

From high-temperature fiberglass tubular shielding for engine applications to industry-standard EMI/RFI braided shielding for electrical wire interconnect EMC applications, Glenair offers the industry's most comprehensive range of in-stock solutions.

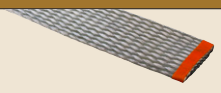
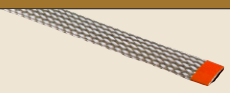
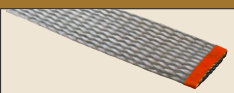
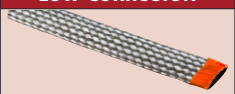
- **Industry-standard metallic EMI/RFI braided cable shielding**
- **IAW and qualified QQ-B-575B / A-A-59569 tin-, silver-, and nickel-plated copper configurations**
- **Non-metallic cable shielding sleeves meet the broad range of mechanical wire protection requirements**
- **All types supplied as expandable tubular bulk sleeving or factory overbraiding**
- **Space-grade constructions available**
- **RoHS and REACH materials available**

METALLIC AND NON-METALLIC

Cable Shielding Sleeves and Overbraiding

Industry-standard solutions for EMI/RFI and abrasion shielding

EMI / RFI SHIELDING, INDUSTRY-STANDARD METALLIC

PRINCIPAL SELECTION CRITERIA	GENERAL-DUTY				HIGH-TEMP LOW-CORROSION
Braid Part Number and Material Construction	 **100-001** Soft Drawn Tin Plated Copper	 **100-002** Soft Drawn Silver Plated Copper	 **100-003** Soft Drawn Nickel Plated Copper	 **100-005** Soft Drawn Tin Plated Copper-Clad Steel	 **100-004** Soft Drawn Stainless Steel
RoHS Materials	Yes	Yes	Yes	Yes	Yes
EMI Frequency Effectiveness	10 KHz to 1 GHz+	10 KHz to 1 GHz}+	10 KHz to 1 GHz+	Good (H Field) Poor (E Field)	Good (H Field) Poor (E Field)
Temperature Range	+150°	+200°	+200°	+175°	+260°
Pull Strength (.5"Ø braid)	125 Lbs.	125 Lbs.	125 Lbs.	175 Lbs.	225 Lbs.
Corrosion Resistance	48 Hours Salt Spray	48 Hours Salt Spray	500 Hours Salt Spray	96 Hours Salt Spray	1000 Hours Salt Spray
Abrasion Resistance	Good	Fair	Good	Good	Very Good
Material Specification	ASTM B33	ASTM B298	ASTM B355	ASTM B520	QQ-W-423/ ASTM A580

NON-METALLIC MONOFILAMENT (MONO) AND YARN BRAIDED CABLE SHIELDING

PRINCIPAL SELECTION CRITERIA	GENERAL DUTY / ABRASION RESISTANCE					ECONOMY		TEMPERATURE TOLERANCE		FIRE RESISTANCE	
Braid Part Number and Material Construction	 **102-060** Mono. FEP	 **102-001 · 102-002** Mono. PET-FR	 **102-020 thru -023** Mono. Halar®	 **103-013 · 103-080** Yarn, Nomex®	 **102-080** Mono. Ryton-R-7	 **102-073** Yarn, Dacron®	 **102-072** Yarn, Nylon	 **102-051** Mono. PEEK	 **103-062** Yarn, Nomex®	 **100-022** Yarn, PTFE-Glass	 **102-071** Yarn, Kevlar®
Halogen-Free	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
Temperature Range	-55°C to +200°C	-55°C to +125°C	-65°C to +150°C	-55°C to +200°C	-65°C to +180°C	-62°C to +125°C	-20° to +170°	-65°C to +260°C	-60°C to +240°C	-204°C to +482°C	-73°C to +160°C
Tensile Strength (psi) Yield	3300	50,000	7000	90,000	19,000	10,000	12,400	13,000	90,000	450,000	400,000
Elongation Percentage	50%	20%	15%	25%	40%	12%	20%	38%	25%	5%	3.6%
Chemical Resistance	Excellent	Good	Excellent	Excellent	Excellent	Good	Excellent	Excellent	Outstanding	Excellent	Excellent
Abrasion Resistance	Good	Good	Excellent	Good	Excellent	Fair	Excellent	Excellent	Excellent	Excellent	Good
Weight / Duty (specific gravity)	Heavy (2.17)	Medium (1.38)	Medium (1.68)	Medium (1.58)	Light (1.25)	Medium (1.38)	Light (1.14)	Light (1.3)	Medium (1.58)	Heavy (2.5)	Medium (1.44)
Flammability	Very Low	Flammable Self-Extinguishing	Very Low	Will Not Melt	Very Low	Flammable	Flammable	Very Low	Will Not Melt , Self-Extinguishing	Will Not Burn	Will Not Melt

A GLENAIR SIGNATURE

High-Rel Cable Assembly

CRITICAL COMPONENT

NAVSEA qualified

Composite Junction Boxes, NAVSEA-Approved

Durable, lightweight, corrosion-free EMI/RFI shielded composite junction boxes IAW NAVSEA standard drawing 803-6983506 Rev. B

- **Over a dozen different tooled sizes and shapes**
- **Extremely durable, corrosion-free, and high temperature engineering composite thermoplastic**
- **Tested and qualified to U.S. Navy, UK MOD, and hundreds of commercial aircraft and marine applications**

Series 316 stainless steel hardware provides long-term durability

Unlimited corrosion resistance compared to metal junction boxes reduces repair and maintenance costs

Glass reinforced composite thermoplastic material is strong and durable, yet extremely lightweight

IP67 rated seals and gaskets protect equipment from moisture and dust

Example box shown: one of a series of NAVSEA-approved signal, switch, and sound/power, control boxes designed to eliminate corrosion damage and reduce maintenance cost on navy ships

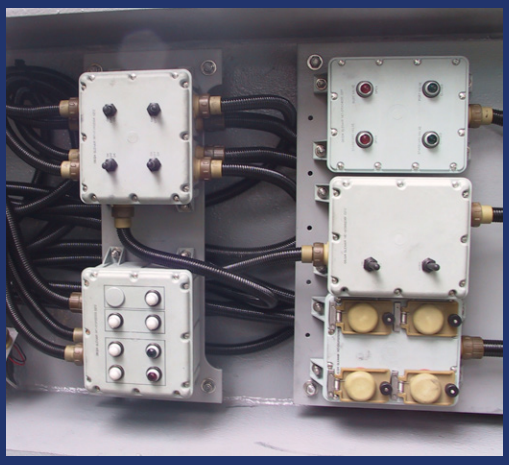
CORROSION-FREE

Composite Junction Boxes

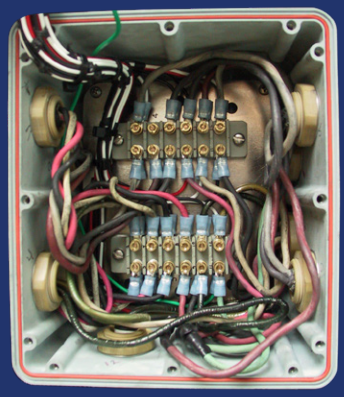
For above-deck, harsh-environment shipboard use

TESTED AND QUALIFIED THROUGHOUT THE FLEET: GLENAIR CORROSION-FREE COMPOSITE BOXES

Broad range of sizes and shapes



Complex installations fully supported with feed-thru fittings and wire protection conduit



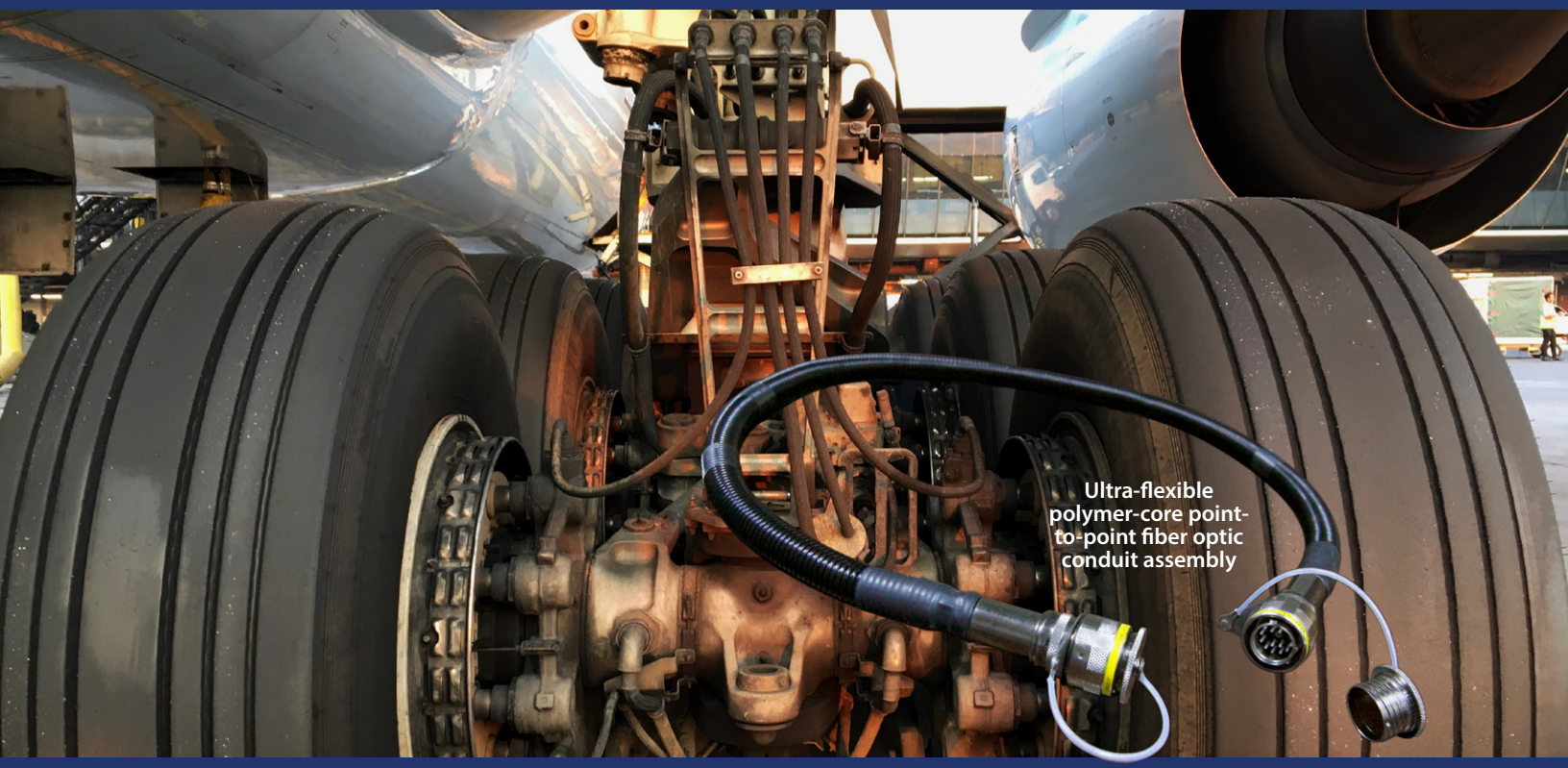
Discrete components or turnkey wired and connectorized systems

GLENAIR COMPOSITE BOX PRODUCT SPECIFICATIONS		
Description/Test Report	**Requirement**	**Procedure**
Plating Adhesion *Glenair #9-44-18/TN94-159*	Should not exhibit any blistering, peeling, or other separation of the units plating.	Tested IAW MIL-DTL-38999.
Vibration *NTS #973-7369-2*	Should not exhibit loosening of component parts or evidence of damage.	Tested IAW MIL-STD-167 Type 1 for box units and MIL-STD-1344, Method 2004 Condition II for fittings and accessories.
Shock *MOD #BR8470 Grade C and F*	There shall be no loosening of parts or evidence of damage.	Tested IAW MOD BR 8470 Grade C and F.
Salt Spray *Glenair #9-44-18/TN94-159*	Should exhibit no exposure of underplate or base material.	Tested IAW MIL-STD-1344, Method 1001.
Dust *NTS #973-7369-1*	Should conform to required torque limits and functional requirement within 25%.	Tested IAW MIL-STD-202.
UV Light Resistance *GE RDM88050255-6042*	No degradation of the mechanical properties defined in the specification after testing.	Tested IAW ASTM D2565.
Impact *MIL-STD-1344, Method 2018*	No evidence of breaking or cracking of components or other damage that could affect the product performance.	Tested IAW MIL-STD-1344, Method 2018.
Temperature Cycling *NTS #575-9249*	No cracking, peeling, or separation of plating or other functional damage.	Tested IAW MIL-STD-1344, Method 1003 at -65°C to 200°C.
Hydrolytic Stability *NTS #878-536*	No evidence of increased weight greater than 1% and no evidence of cracking, breaking, or loosening of component parts.	Tested IAW ASTM D570-81.
Flammability *MIL-STD-1344, Method 1012, Smoke Index, NES 711 Issue 2, NES 713 Issue 3 and ISO 4589*	The item flame and after flow extinguishing time shall not exceed the defined limits.	Tested IAW Table II of MIL-STD-1344, Method 1012, Smoke Index, NES 711 Issue 2, NES 713 Issue 3. Burning behavior by Oxygen Index, ISO 4589.
Water Tightness *EA #0C13513-039514*	Water tightness and internal pressurization is maintained.	Tested IAW EA #0C13513-039514.
Outgassing *JPL #081892*	Maximum allowable weight loss is 10%.	Tested IAW ASTME 595.
Electromagnetic Shielding *TRW/ABQ-55C-1186-0*	Should demonstrate shielding effectiveness and transfer impedance conforming to military industry standards and specific customer requirements.	Tested IAW TRW/ABQ-55C-1186-0.

OPTIMIZED
FOR USE WITH
MIL•STAR™
HIGH-PERFORMANCE HOOKUP WIRE AND CABLE

CONDUIT
ASSEMBLIES

Conduit Assemblies: turnkey wired solutions with proven aerospace-grade performance



Ultra-flexible polymer-core point-to-point fiber optic conduit assembly

All of the metal-core conduit and polymer-core convoluted tubing systems we fabricate at Glenair may be wired and assembled at our factory with tamper-proof crimp ring or solder terminations according to customer requirements. Reduced size and weight factory terminated conduit assemblies offer the utmost in environmental ruggedness, reliability, and durability. Certified factory assemblers and calibrated tooling guarantee reliable long-term performance. Glenair's expertise in wired conduit systems extends from simple point-to-point jumpers to complex multibranch assemblies as well as turnkey integrated systems and LRUs with flexible conduit interconnect cabling.

TURNKEY FACTORY-TERMINATED CONDUIT ASSEMBLIES

Complex multibranch aircraft electrical wire conduit assembly with high-temperature polymer-core conduit

Lightweight multibranch wire protection conduit assembly with high-temperature polymer-core convoluted tubing

Crush-resistant commercial aerospace metal-core conduit assembly

METAL- AND POLYMER-CORE

Conduit Assemblies

Flexible, impact-resistant alternatives to lighter-duty jacketed cable assemblies

COMPLEX, MULTIBRANCH ASSEMBLIES WITH INNOVATIVE LIGHTWEIGHT POLYMER-CORE WIRE PROTECTION CONDUITS

Lightweight, halogen-free PEEK wire conduit assembly

Turnkey integrated box assembly and wired polymer-core interconnect system

PEEK, PFA, ETFE, Siltem polymer core, and Glenair signature high-temperature polymer core conduit solutions and user-installable fittings

COMPLEX, MULTIBRANCH ASSEMBLIES WITH HEAVY-DUTY METAL-CORE CONDUIT AND OVERBRAIDING WIRE PROTECTION MATERIALS

Turnkey wheel well impact-resistant metal-core conduit assembly

Metal-core conduit wire protection aircraft brake assembly

Brass, SST, or nickel-iron metal-core conduit material types with innovative microfilament and drawn filament braiding. Factory terminated or for use with user-installable fittings.

C D E F G H I J K L M N O P Q R S T U V W X Y Z

A GLENAIR SIGNATURE

High-Rel Cable Assembly

CRITICAL COMPONENT

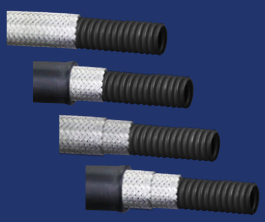
CONDUIT SYSTEMS

Conduit System Components: polymer-core and metal-core wire protection technologies

Turnkey conduit assembly for a rugged charging application

LIGHTWEIGHT, SEALED/FLEXIBLE POLYMER-CORE ANNULAR CONDUIT WIRE PROTECTION SYSTEMS

Kynar, PVDF, and G-Flex Siltem materials



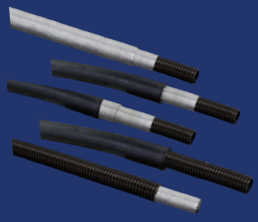
Braided shielding and jacketing options

Easy-to-install Guardian wire protection system

Sentry economical wire protection system

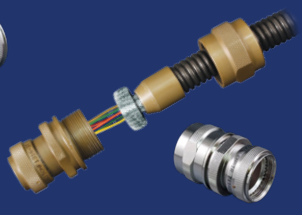
Non-wired factory-terminated assemblies

HIGH-TEMPERATURE, HIGH-STRENGTH HELICAL POLYMER-CORE WIRE PROTECTION SYSTEMS



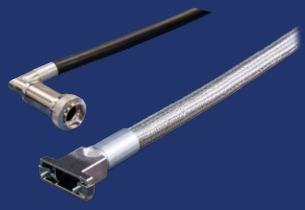
High-temperature, high-strength helical conduit

Easy-to-install Hat-Trick wire protection system



Internal braid wire protection system

AeroLite wire protection system



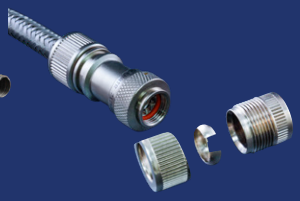
Non-wired factory-terminated assemblies

Conduit System Components

Flexible tubing · User-installable fittings and adapters

HEAVY-DUTY METAL-CORE CONDUIT WIRE PROTECTION SYSTEMS

Flexible, crush-proof EMI/ RFI metal-core conduit



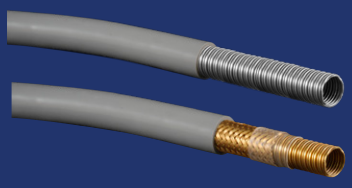
Low-profile RP Plus wire protection system

Heavy-duty metal and weight-saving composite

Legacy MIL-C-24758 wire protection system

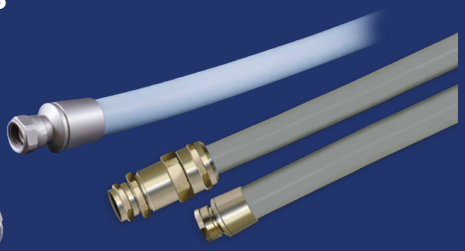
Non-wired factory-terminated assemblies

MIL-PRF-24758 SHIPBOARD CONDUIT WIRE PROTECTION SYSTEMS



Stainless steel and brass metal-core conduit with UV-resistant BlueJacket

Complete range of qualified MIL-PRF-24758 fittings



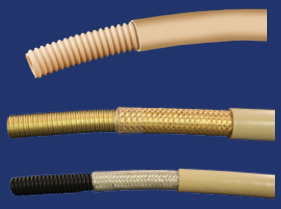
Non-wired factory-terminated assemblies

SPECIAL-PURPOSE CONDUIT MATERIALS AND CONFIGURATIONS

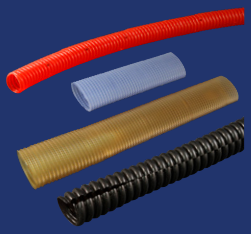
Spring-reinforced polymer-core assemblies

Halogen-free PEEK tubing

Special composite fiber optic backshells

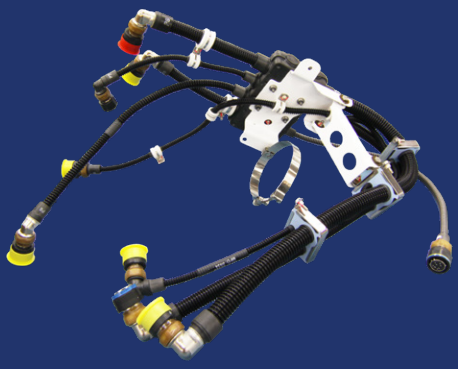


Conduit and jacket color options including Desert Tan



Special processing including drain holes, ovalization, and split-entry

TURNKEY FACTORY-TERMINATED CONDUIT ASSEMBLIES



Complex multibranch fighter jet electrical wire conduit assembly

Lightweight, halogen-free rail industry wire conduit assembly

Crush-resistant commercial aerospace metal-core conduit assembly

OPTIMIZED
FOR USE WITH
FIBER KING
FIBER OPTIC CABLES

DataStar™

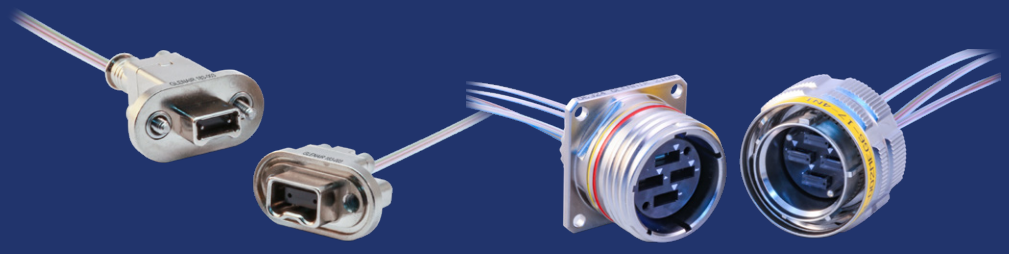
DataStar Photonics and Optoelectronics: ruggedized for land, sea, air, and space applications

DataStar Photonics are optimized for reduced weight and increased bandwidth in ruggedized land, sea, air, and space applications. Low-profile Tx and Rx designs facilitate compact board layouts. Parallel optic Xcvrs boost datarate performance.

- **Selected components subjected to Gamma, proton, and heavy ion radiation testing**
- **Data transmission rates up to 10 – 28 Gbps per channel**
- **Zero EMI / ground loop susceptibility**
- **Harsh-environment: high temperature, high vibration and shock tolerant**
- **Plug-and-play MT F/O interface**

MT FIBER OPTIC CONNECTORS AND CABLE ASSEMBLIES FOR USE WITH GLENAIR DATASTAR PHOTONICS

- Ruggedized connectors / cables with MT optical ferrules
- SuperNine™ MIL-DTL-38999; 1, 2, 3 or 4 MT ferrules
- Series 79 Rectangular and Micro-D Subminiature packaging
- -40°C to +85°C operating temperature range



TEMPERATURE / SHOCK RESISTANT

DataStar Parallel Optic Transceivers, DWDM Transceivers, Tx/Rx Connectors and Contacts

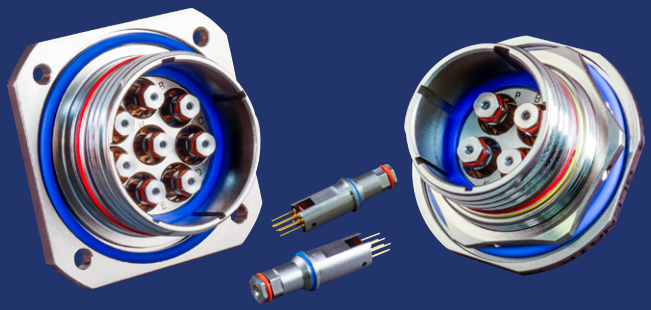
Harsh environmental, mission-critical performance

PCB-MOUNTED RUGGEDIZED PHOTONIC TRANSCEIVERS / DWDM TRANSCEIVER MODULES

- 50 Mbps to 5 Gbps: SpaceFiber, sRIO, Gb Ethernet, and FibreChannel
- -40°C to +85°C; Gamma, proton, and heavy ion radiation
- 300-400 mA at 3.3V over temperature
- Shock-resistant Samtec electrical connector and four-point mounting

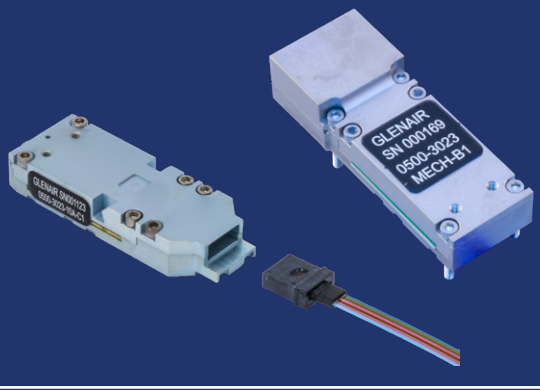
SIZE #8 OPTO-ELECTRONIC Tx-Rx CONTACTS AND CONNECTORS

- Fiber-optic transmitter or receiver in a size #8 contact
- 50 Mbps to 5 Gbps
- Supports balanced CML protocols: SpaceFibre, sRIO, GB Ethernet, and Fiber Channel
- -40°C to +85°C; Gamma, proton, and heavy ion radiation



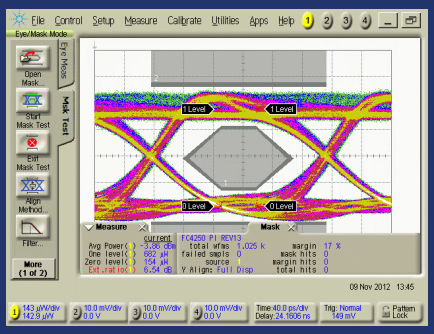
PARALLEL OPTICAL 28GBPS PCB-MOUNT PHOTONIC TRANSCEIVER

- Compact, low-profile package: 7.6 mm × 14 mm × 29.7 mm
- Secure PCB screw-mounting ensures excellent shock and vibration performance
- -40°C to +100°C operating case temperature
- Configurable fiber packaging options: MPO/MTP®, pigtail, MT ferrule
- Class 1M laser output power for higher link margin
- Lensed array for 3dB link improvement
- Aerospace-grade and radiation-tolerant grade options

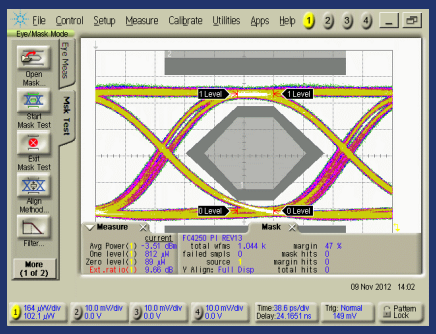


FILTERED EYE DIAGRAM TEST RESULTS

Performance of Glenair Size #8 optoelectronic contact filtered eye diagrams at 4.25Gbps demonstrates suitability of the technology for high throughput, high-bandwidth demand satellite applications including remote sensing and earth observation (climate, vegetation, forest biomass, aridity, ice caps, wind speeds, sea levels, magnetics), communication, quantum key, telecoms, and worldwide expansion of internet coverage.



-40°C



+90°C

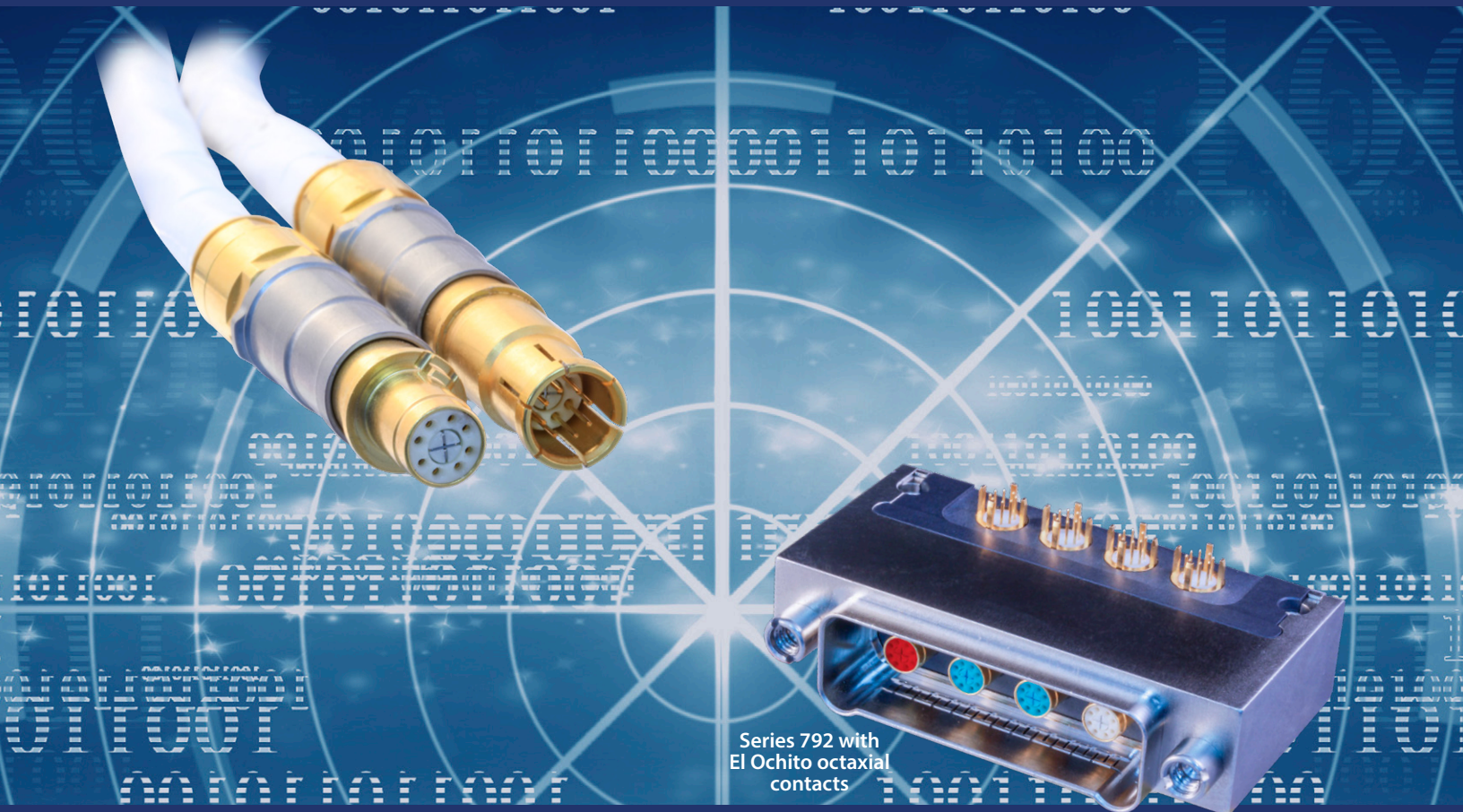
A GLENAIR SIGNATURE

High-Rel Cable Assembly

CRITICAL COMPONENT

El Ochito®

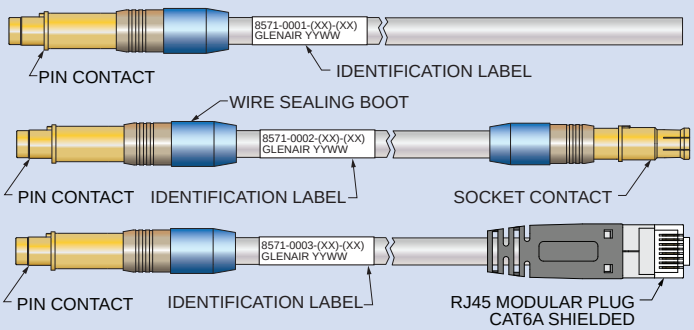
High-speed **octaxial contacts** for Ethernet, SuperSpeed USB and other multi-gigabit datalink protocols



Series 792 with El Ochito octaxial contacts

High speed, harsh environment El Ochito® octaxial contacts save size and weight in avionics, weapons systems, satellites, radars, and communications equipment.

TURNKEY FACTORY JUMPERS AND PIGTAIL ASSEMBLIES



Glenair signature high-speed Octaxial El Ochito contact series may be specified as factory-wired jumpers and pigtails, including El Ochito-to-commercial RJ45 and USB connectors.

- **CAT8 40GBASE-T Ethernet, SuperSpeed USB, and multi-gigabit shielded pairs**
- **Universal drop-in for keyed size #8 connector cavities**
- **Data-pair isolation for optimal signal integrity**
- **Crimp or threaded shield termination contact types**
- **Snap-in, rear release**
- **Environmentally sealed**
- **Aerospace-grade cable assemblies**
- **50% cable / contact reduction compared to Quadrax**

HIGH-SPEED

El Ochito® Octaxial Contacts

Protocols and exploded views of Type I and Type II lightweight, miniature shielded contacts

EL OCHITO® WHITE

1000BASE-T, 10GBase-T, 40GBASE-T

El Ochito® White octaxial contacts provide 40GbE (when used with Cat 8 cable) in a single size #8 contact cavity (compared to two Quadrax) for 100BASE-T solutions.

EL OCHITO® BLUE

SuperSpeed USB

Low-dielectric material. 90 ohms. El Ochito® Blue octaxial contacts provide an aerospace-grade solution for SuperSpeed USB 3.0

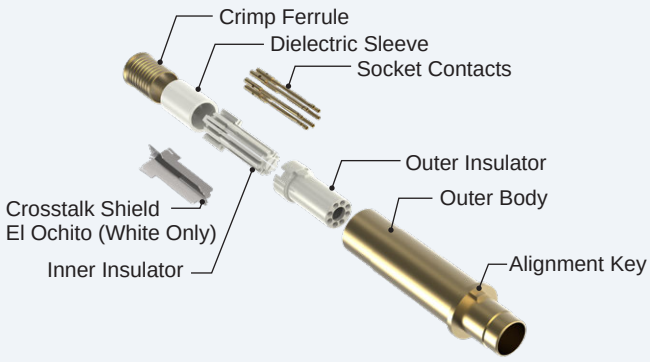
EL OCHITO® RED

HDMI, DisplayPort 1.4, SATA

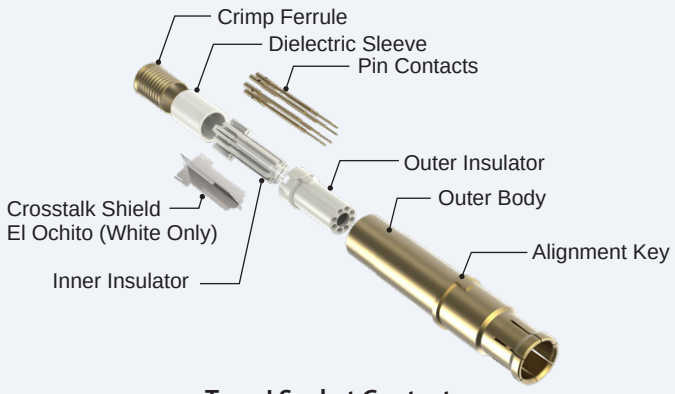
Low-dielectric material. Up to 10 Gbps per pair. 100 ohms. El Ochito® Red octaxial contacts provide an aerospace-grade solution for multi-gigabit data rates.

EL OCHITO® WHITE TYPE I CONTACTS, NON-SERVICEABLE

26 AWG, Crimp Wire Shield Termination



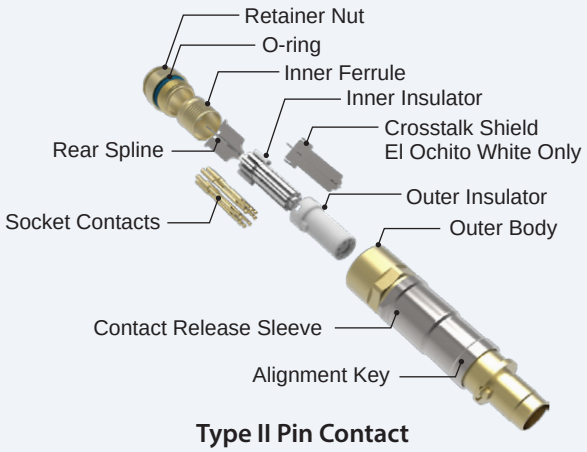
Type I Pin Contact



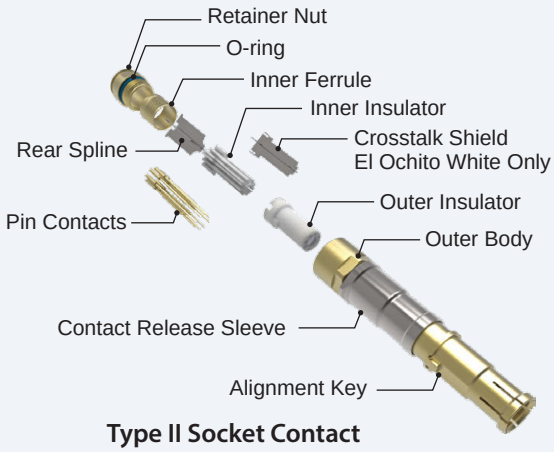
Type I Socket Contact

EL OCHITO® TYPE II CONTACTS, SERVICEABLE

24-26 AWG, Threaded Wire Shield Termination, Integral Contact Release Sleeve



Type II Pin Contact



Type II Socket Contact

E F G H I J K L M N O P Q R S T U V W X Y Z

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FOR USE WITH
FIBER KING
FIBER OPTIC CABLES

Rugged Fiber Optic CONNECTORS

Ultra-Low dB Loss **ARINC 801** fiber optic termini with SuperNine connector packaging

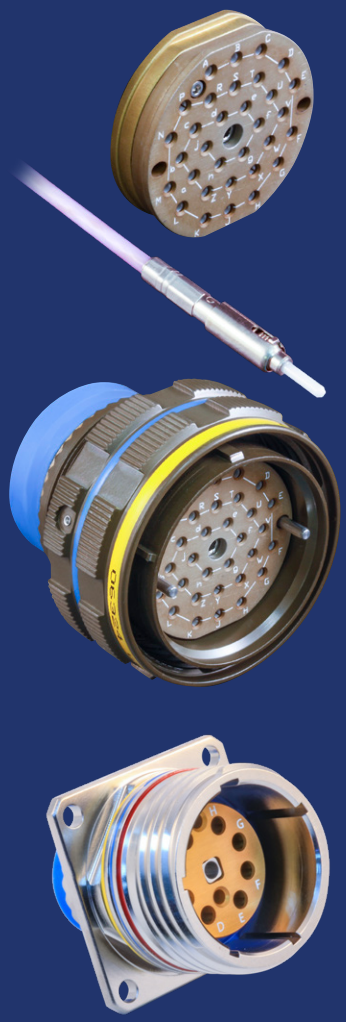
ARINC 801 is a keyed genderless fiber optic terminus used in a broad range of aerospace connector packages including ARINC 801, ARINC 600, and other circular and rectangular series. The Glenair solution includes features from our "Better than QPL" SuperNine® connector with improved axial alignment, vibration and shock resistance, and low dB loss performance. Loose structure and tight structure cable types are supported.

- **Keyed, genderless terminus design eliminates pin and socket complexity and supports both PC and APC applications**
- **Rear-release size #16 termini (1.25mm ferrule)**
- **Singlemode (1310 and 1550 nm) as well as multimode (850 and 1300 nm)**
- **Mechanical and environmental performance in accordance with ARINC 801**

ULTRA-LOW dB LOSS

Fiber Optic Connection System: ARINC 801

SuperNine series connectors · ARINC 801 termini
Turnkey integrated cable assemblies



ARINC 801 is an industry-standard terminus design for use in various form-factor aerospace connectors. Terminus features include Ø1.25mm precision zirconia ceramic ferrules and alignment sleeves, as well as a keyed body for angle polished (APC) end face termination. Connector features include removable alignment sleeve retainer and guide pins. Glenair offers singlemode (UPC and APC) as well as multimode (PC) options with familiar LC ferrule type termination. Terminus configurations available for use with loose and tight structure cable. A complete range of insert arrangements from 2 to 32 channels are available in accordance with ARINC 801. Glenair can provide connector packaging in virtually any supported format from ARINC 600 to EN4644. Our catalog solution incorporates "Better-than-QPL" MIL-DTL-38999 Series III type SuperNine® connector features (i.e. anti-decoupling and key polarization options).

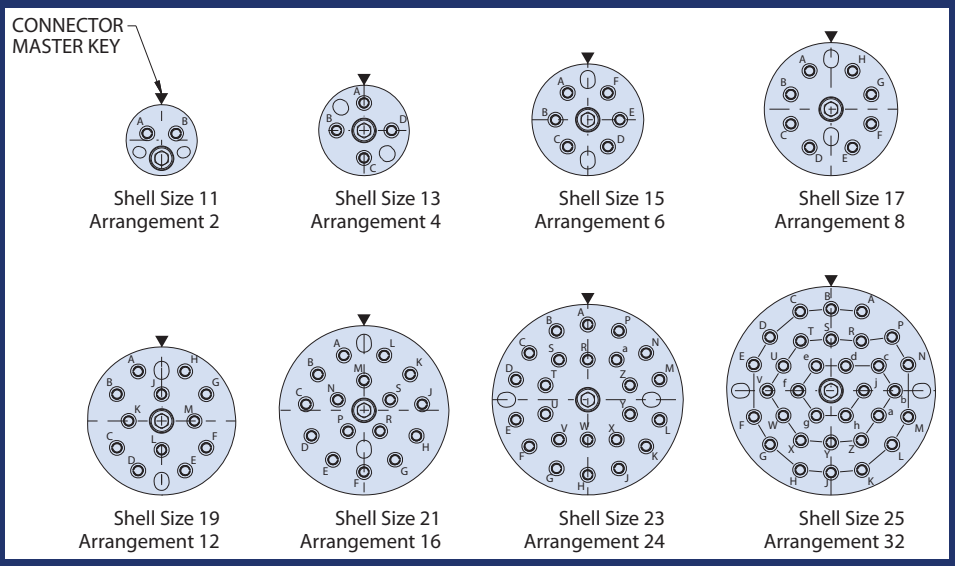
SERIES 180-159 ARINC 801 PERFORMANCE SPECIFICATIONS

Test Description	Performance Requirements/Specifications
Insertion Loss	Multimode (PC): 0.30 dB typical at 850/1300nm Singlemode (UPC): 0.30 dB typical at 1310/1550nm
Return Loss	Multimode (PC): Better than 20 dB Singlemode (UPC): Better than 40 dB Singlemode (APC): Better than 65 dB
Operating Temperature	-55°C to +165°C (cable/epoxy dependent)
Storage Temperature	-40°C to +85°C (cable/epoxy dependent)
Mating Durability	500 cycles, per TIA/EIA-455-21
Vibration	23.1g RMS, 8 hrs/axis, per TIA/EIA-455-11, Test Condition VI-G
Mechanical Shock (half-sine pulse)	300g Peak for 3ms, 3 shocks/axis in each direction, per TIA/EIA-455-14, Test Condition D
Thermal Cycling	-55°C to +125°C, 50 cycles, per TIA/EIA-455-3, Test Condition C-4 (cable/epoxy dependent)
Temperature Life	+125°C for 1000 hrs, per TIA/EIA-455-4 (cable/epoxy dependent)
Humidity, Steady State	+40°C for 240 hrs, 90% RH, per TIA/EIA-455-5, Method A, Test Condition B
Humidity, Temperature Cycling	-25°C to +65°C, 10 cycles for 24 hrs, 90% RH, per TIA/EIA-455-5, Method B7a (cable/epoxy dependent)

MATERIAL AND FINISH

Code	Material	Finish Description
ME	Aluminum Alloy	Electroless Nickel
MT		Nickel-PTFE, Gray
NF		Cadmium, Olive Drab
TZ		Tin-Zinc, Green-Gold (RoHS)
ZN		Zinc-Nickel, Olive Drab
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

ARINC 801 INSERT ARRANGEMENTS



F G H I J K L M N O P Q R S T U V W X Y Z

OPTIMIZED
FOR USE WITH
FIBER KING
FIBER OPTIC CABLES

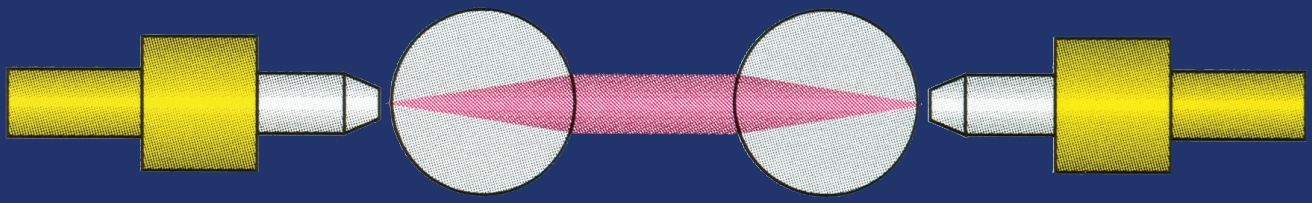
Rugged Fiber Optic CONNECTORS

Eye-Beam GLT, Eye-Beam GMA, and Eye-Beam Power, plus rugged field (PC) GFOCA D83526

Glenair's rugged, low-maintenance F/O solutions include GFOCA, an hermaphroditic battlefield fiber optic system available as discrete components or turnkey cable assemblies

Commonly used in harsh environmental applications such as directed energy weapons, long-run battlefield communications, and Free Space Optical applications, Glenair Expanded Beam fiber optics virtually eliminate field maintenance and cleaning difficulties, with low dB-loss mating system performance rated to 1000-2000 cycles depending on fiber media selection.

EXPANDED BEAM TECHNOLOGY



Expanded Beam connectors utilize a sealed lens to expand the emitting beam of light from the fiber media, making connections less sensitive to alignment and contaminants. The expanded beam enters an air gap between connectors and is then refocused back into the fiber of the mating half. Sealed expanded beam assemblies are ideally suited for environmental applications where optical connectors are subject to repeated mating and unmating cycles. Easy to clean, terminate, and insensitive to contamination.

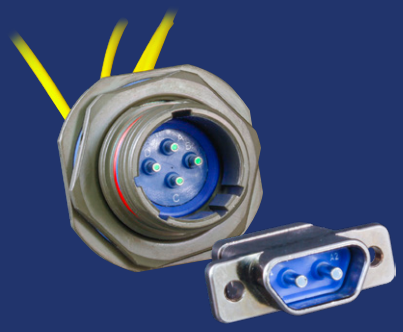
EXPANDED-BEAM AND RUGGED FIELD

Fiber Optic Connection System: Eye-Beam and GFOCA Type

Connectors, termini, and cable assemblies

Eye-Beam GLT, Eye-Beam GMA, and Eye-Beam Power are optimized for reliable, low-maintenance performance in ground and air applications. Eye-Beam GLT is a grin-lens termini solution, Eye-Beam GMA is a workalike for the popular HMA hermaphroditic connector system, and Eye-Beam Power is a ruggedized, optical power terminus design for directed energy and Free Space Optical applications. GFOCA hermaphroditic F/O interconnects are built IAW MIL-DTL-83526 and equipped with MIL-PRF-29504/16 type termini. GFOCA is Glenair's most ruggedized field-deployable fiber optic platforms.

INNOVATIVE EYE-BEAM GLT EXPANDED BEAM TERMINI DELIVER OPTIMAL PERFORMANCE IN HARSH ENVIRONMENTS



- The benefits of an expanded beam system built into an optical terminus
- Factory-terminated Eye-Beam® GLT termini easily integrated into any connector package
- Innovative expanded beam lens terminus expands signal 27X from a standard 9.3 micron fiber core
- Revolutionary design delivers low dB loss performance (1.5 dB multimode, 2.0 dB singlemode untuned) while reducing maintenance, inspection and test costs
- Ultra-high precision ceramic sleeves and custom designed terminus bodies ensure axial alignment

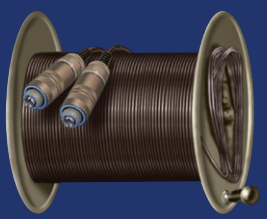
MIL-DTL-83526 HMA TYPE EYE-BEAM GMA BALL-LENS EXPANDED-BEAM FIBER OPTICS

- Field-deployable system for both indoor and outdoor applications
- Beam expansion dramatically reduces loss due to contamination
- Large ball lens facilitates easy cleaning
- Fully intermateable with all MIL-DTL-83526 /20 and /21 compliant connectors
- 2 and 4-channel insert arrangements
- Singlemode / multimode and broad cable support

EYE-BEAM POWER RUGGED, HIGH-POWER FIBER OPTICS FOR DIRECTED ENERGY AND FSO APPLICATIONS

- Size #8 drop-in expanded-beam optical contact
- Powerful 20W and higher optical contact ideally suited for directed energy applications
- Compatible with 1064nm polarization-maintaining fiber with a 0.5 dB typical insertion loss
- Low temperature rise at peak power
- Signature assembly process optimizes optical alignment for mission-critical reliability

HARSH-ENVIRONMENT, FIELD-DEPLOYABLE GFOCA FIBER OPTIC CONNECTION SYSTEM



- Low insertion loss genderless termini
- 2.5 mm dia ceramic ferrules and alignment sleeves
- 4 channel singlemode and multimode configurations
- Designed to meet the requirements of MIL-PRF-29504/16 and MIL-DTL-83526 military specifications
- Discrete components or complete cable-on-reel solutions available

OPTIMIZED
FOR USE WITH
FIBER KING
FIBER OPTIC CABLES

Rugged Fiber Optic CONNECTORS

Glenair Front Release fiber optic connection system: the fast road to F/O integration

The Glenair Front Release (GFR) system allows for rapid connector integration of optical media by placing retention and environmental sealing components directly on the termini. GFR enables fast design and development of unique fiber optic connector shell packages without costly tooling and engineering.

- **Precision size 16 pin-socket front release termini with integrated retention clip**
- **Singlemode and multimode for all popular fiber sizes**
- **Typical insertion loss less than 0.5 dB**
- **Supports cylindrical and rectangular connectors**
- **Connector shells available in aluminum and stainless steel**

GFR fiber optic termini integration in micro miniature rectangular and circular connector packaging

FRONT-RELEASE

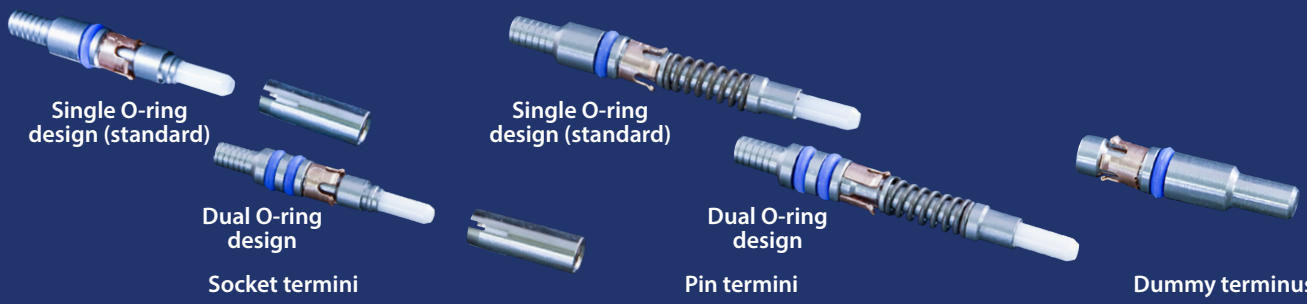
Fiber Optic Connection System: Glenair Front-Release (GFR)

Easy fiber optic integration for circular and rectangular connectors

MATERIAL/FINISH		
Code	Material	Finish
C	Aluminum Alloy	Anodize, Black
M		Electroless Nickel
NF		Cad OD over Electroless Nickel
ZN		Zinc-Nickel, OD, over Electroless Nickel
Z1	SST	Passivate

Glenair Front Release (GFR) fiber optic termini perform at insertion loss levels equivalent to the MIL-PRF-29504 termini designed for use in high-performance fiber optic systems such as MIL-DTL-38999 and MIL-PRF-28876. The GFR termini, however, feature integrated O-ring sealing and retention clips, making them suitable for easy integration into machined connector cavities in virtually any form-factor connector. This approach has enabled Glenair to integrate optical media—with ruggedized, low dB loss performance—in Micro-D, D-Subminiature, and any number of custom connector shells, both rectangular and cylindrical. Contact the factory for availability and application engineering assistance for both standard and custom GFR fiber optic applications.

GFR FRONT-RELEASE TERMINI WITH INTEGRATED O-RING SEALING AND RETENTION CLIPS



MICRO-D FORM-FACTOR GFR CONNECTORS

Support from one to eight GFR termini with insertion loss performance comparable to industry-standard MIL-PRF-29504. Precision-machined with integral alignment pins for optimum optical fiber alignment and low dB data loss performance. Available in aluminum and stainless steel. Termini sold separately. Support for single- and dual-O-ring termini. Panel cutouts IAW MIL-DTL-83513.

D-SUBMINIATURE FORM-FACTOR GFR CONNECTORS

Support from four to twelve GFR termini with insertion loss performance comparable to industry-standard MIL-PRF-29504. Precision-machined with integral alignment pins for optimum optical fiber alignment and low dB data loss performance. Available in aluminum and stainless steel with standard jackpost hardware included. Termini sold separately. Support for single- and dual-O-ring termini. Panel cutouts IAW MIL-DTL-24308.

MICRO-MINIATURE CIRCULAR GFR CONNECTORS

Support from two to twelve GFR pin or socket termini with insertion loss performance comparable to industry-standard MIL-PRF-29504. Precision-machined with O-ring environmental seal. Back-end threads and teeth accept Glenair Mighty Mouse accessories. Available in aluminum and stainless steel. Termini sold separately. Support for single- and dual-O-ring termini.

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Rugged Fiber Optic CONNECTORS

Glenair High Density (GHD): double the density of standard mil-spec fiber optic designs

GHD solutions are supplied as discrete connectors, termini, and cable, or as turnkey assemblies

The system of choice for military and commercial air and space applications with aggressive size and weight requirements. Outstanding optical and environmental performance with nearly double the density of standard mil-spec, butt-joint solutions. Glenair High Density (GHD) is a complete fiber optic system with termini, connectors, cable and conduit assemblies, test probe adapters, tools, and more.

GHD plug connector with alignment sleeve retainer and square flange receptacle. Termini available in keyed and non-keyed styles.

- **Innovative #18 (1.25mm ferrule) front-release genderless termini accommodate 900µ to 2.0mm jacketed fiber**
- **M85045/16 cable accommodation**
- **Composite, aluminum, or stainless steel shells with MIL-DTL-38999 mating and accessory threads**
- **Single key termini for APC polish available**
- **Better optical performance than D38999 with nearly double the density**
- **Precision alignment sleeve retainer with integrated guide pins**

DOUBLE-DENSITY

Fiber Optic Connection System: Glenair High-Density (GHD)

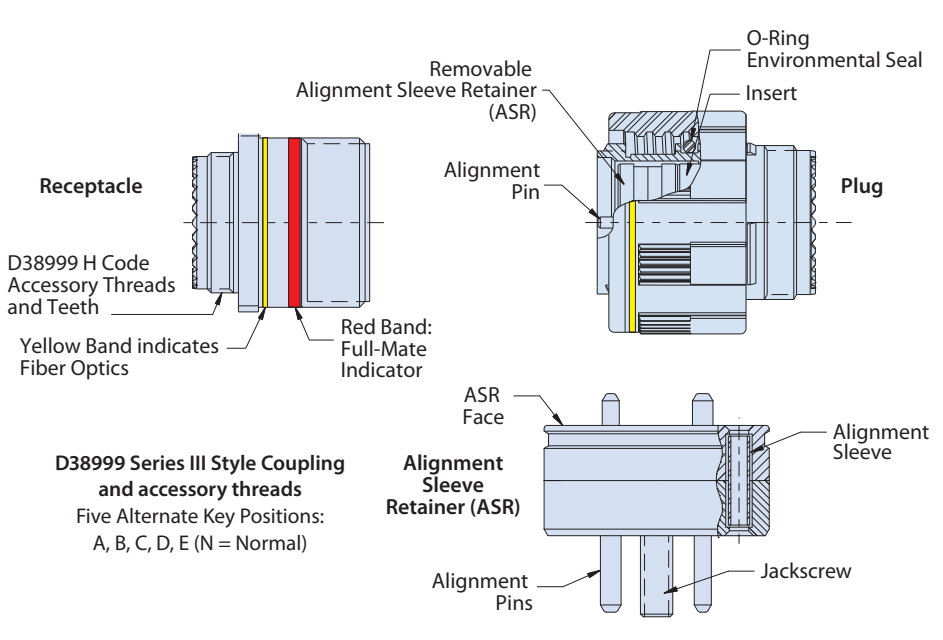
SuperNine series connectors · #18 genderless termini · Turnkey cable assemblies

MATERIAL AND FINISH		
Code	Material	Finish Description
M	Aluminum Alloy	Electroless Nickel
MA		Electroless Nickel, Matte
MT		Nickel-PTFE, Gray
NF		Cadmium, Olive Drab
TZ		Tin-Zinc, Green-Gold (RoHS)
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
ZL	Stainless Steel	Electro-Deposited Nickel
Z1		Passivate
AB	Marine Bronze	No Plating

ABOUT GLENAIR HIGH DENSITY (GHD)

The GHD fiber optic connection system is a D38999 workalike designed for applications that require higher-density fiber optic insert arrangements with the same outstanding optical and environmental performance as MIL-DTL-38999. The GHD system accommodates a broad range of singlemode and multimode fiber media and offers insertion loss values less than 0.5dB (typical loss for Glenair termini is 0.3 dB). Dense cavity spacing is achieved with an innovative Size 18 genderless front-release terminus design that provides nearly double the density as the standard M28876 and D38999 fiber optic connector series. The GHD system is also available with APC Angle Polish to reduce unwanted back reflection. A removable Alignment Sleeve Retainer (ASR) makes for easy fiber optic cleaning and maintenance in plug connectors. GHD is a complete system that includes keyed and unkeyed termini, a complete range of connector configurations, backshells, accessories, test probe adapters, tools, and more.

GLENAIR HIGH DENSITY (GHD) FEATURES



COMPATIBLE D38999 SERIES III FIBER OPTIC BACKSHELLS AND ACCESSORIES

440-030 Straight backshell

189-016 Self-locking banding backshell with strain relief

189-037 Self-locking banding backshell with bend restrictor

377-014 Self-locking convoluted tubing adapter, composite

189-038 Composite adapter for helical convoluted tubing

F G H I J K L M N O P Q R S T U V W X Y Z

OPTIMIZED FOR USE WITH FIBER KING FIBER OPTIC CABLES

Rugged Fiber Optic CONNECTORS

QPL and Glenair Signature MIL-PRF-28876 fiber optic connection system

Glenair qualified M28876 fiber optic solutions supplied as discrete connectors, backshells, and termini or as turnkey catalog cable assemblies

Qualified MIL-PRF-28876 fiber optic connectors and MIL-PRF-29504 termini—navy approved, in stock, and ready for immediate shipment

M28876/11 jam nut receptacle

M28876/7 plug with backshell

M28876/2 receptacle with backshell

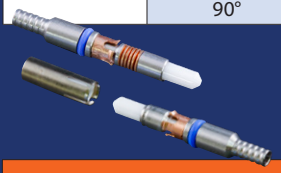
- **Connectors qualified to the complete requirements of MIL-PRF-28876: plugs, wall-mount receptacles, jam-nut receptacles, and in-line receptacles**
- **Multiple shell sizes and insert arrangements, including 2, 4, 6, 8, 18, and 31 channel layouts**
- **Backshells in straight, 45°, and 90° configurations**
- **Corrosion-resistant and environmentally sealed**
- **QPL MIL-PRF-29504/14 and /15 pin and socket termini and /03 dummy terminus**
- **Same-day availability**

NAVSEA QUALIFIED

Fiber Optic Connection System: MIL-PRF-28876

Shipboard connectors · MIL-PRF-29504 /14 and /15 termini · Backshells

CONNECTOR/BACKSHELL TYPES			
Connector Type	**Backshell Type**	**MIL-Spec**	**Commercial Connector Type Code**
Wall Mount Receptacle	None	M28876/1	03
	Straight	M28876/2	13
	45°	M28876/3	23
	90°	M28876/4	33
In-Line Receptacle	Straight	M28876/5	15
Plug	None	M28876/6	06
	Straight	M28876/7	16
	45°	M28876/8	26
	90°	M28876/9	36
Jam Nut Receptacle	None	M28876/11	04
	Straight	M28876/12	14
	45°	M28876/13	24
	90°	M28876/14	34

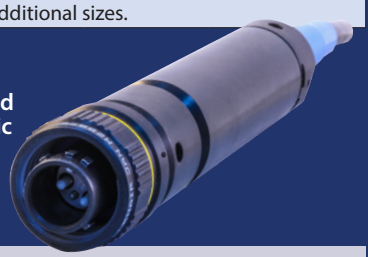


Qualified QPL-29504 pin and socket termini

QUALIFIED FIBER OPTIC TERMINI			
Type	**Military Part Number**	**A Dia (Microns)**	**Typical Fiber Type**
Pin Termini	M29504/14-4131C	126.0	Multi Mode
	M29504/14-4132C	127.0	Multi Mode
	M29504/14-4135C	142.0	Multi Mode
Socket Termini	M29504/15-4171C	126.0	Multi Mode
	M29504/15-4172C	127.0	Multi Mode
	M29504/15-4175C	142.0	Multi Mode
Dummy Terminus	M29504/03-4038		

Crimp sleeve is supplied with terminus assembly and may be ordered separately. For terminus less crimp sleeve, omit **C** from end of part number. Consult factory for additional sizes.

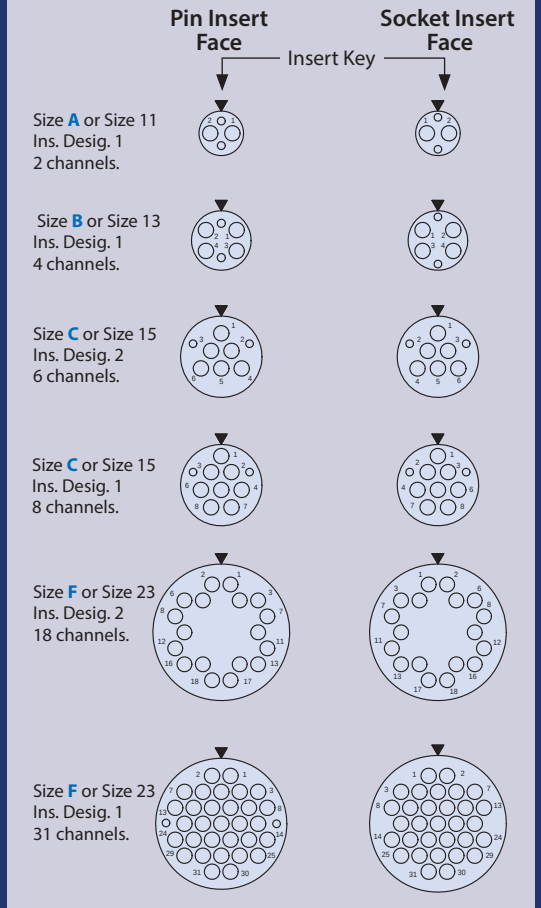
Terminated and tested MIL-PRF-28876 fiber optic cable assembly



TEST DESCRIPTION	PERFORMANCE REQUIREMENTS/ SPECIFICATIONS
Optical Insertion Loss, Multimode	-0.3 dB Typical (62.5/125)
Optical Insertion Loss, Singlemode	-0.3 dB Typical (9/125)
Optical Back Reflection, Singlemode	Better than -40 dB - PC Polish • Better than -50 dB - Enhanced PC Polish
Operating Temperature	-28°C to +65°C (MIL-Spec Epoxy and Cable) -55°C to +125°C (alternative Epoxy and Cable)
Temperature (Thermal) Shock	-40°C to +70°C, 5 Cycles
Temperature Cycling	-28°C to +65°C, 5 Cycles
Temperature/Humidity Cycling	-10°C to +65°C, 10 Cycles, 240 hours, 98% RH
Temperature Life Aging	+110°C, 240 hours, Dry Air
Mating Durability	500 cycles
Vibration - Sinusoidal	10 g Peak, 5-500 Hz sin./ 10.2 g RMS, 50-2000 Hz random
Impact	8 Drops from 8 feet
Crush Resistance	281 lbs, 7 Cycles
Cable Pull Out Force - Termini	Termini: 22 lbs min for 1 minute Connector: 162 lbs min for 10 minutes
Fluid Immersion	Turbine Fuel, Isopropyl Alcohol, Hydraulic Fluid, Lubricating Oil, Coolant, Tap- and seawater, 24 hrs
Water Pressure	32 feet for 48 hours at +10°C to +35°C
Mechanical Shock (High Impact)	MIL-S-901, Grade A, Type B, Class I
Corrosion Resistance (Salt Spray)	500 hours
Sand and Dust	12 hours
Flammability	0.75 inch flame for 10 sec. mated, 1.50 inch flame for 60 sec. unmated

*Performance Specifications/Requirements based on the use of MIL-PRF-24792 Epoxy and MIL-PRF-85045 Simplex and Breakout Shipboard Optical Fiber.

Insert Arrangements



F G H I J K L M N O P Q R S T U V W X Y Z

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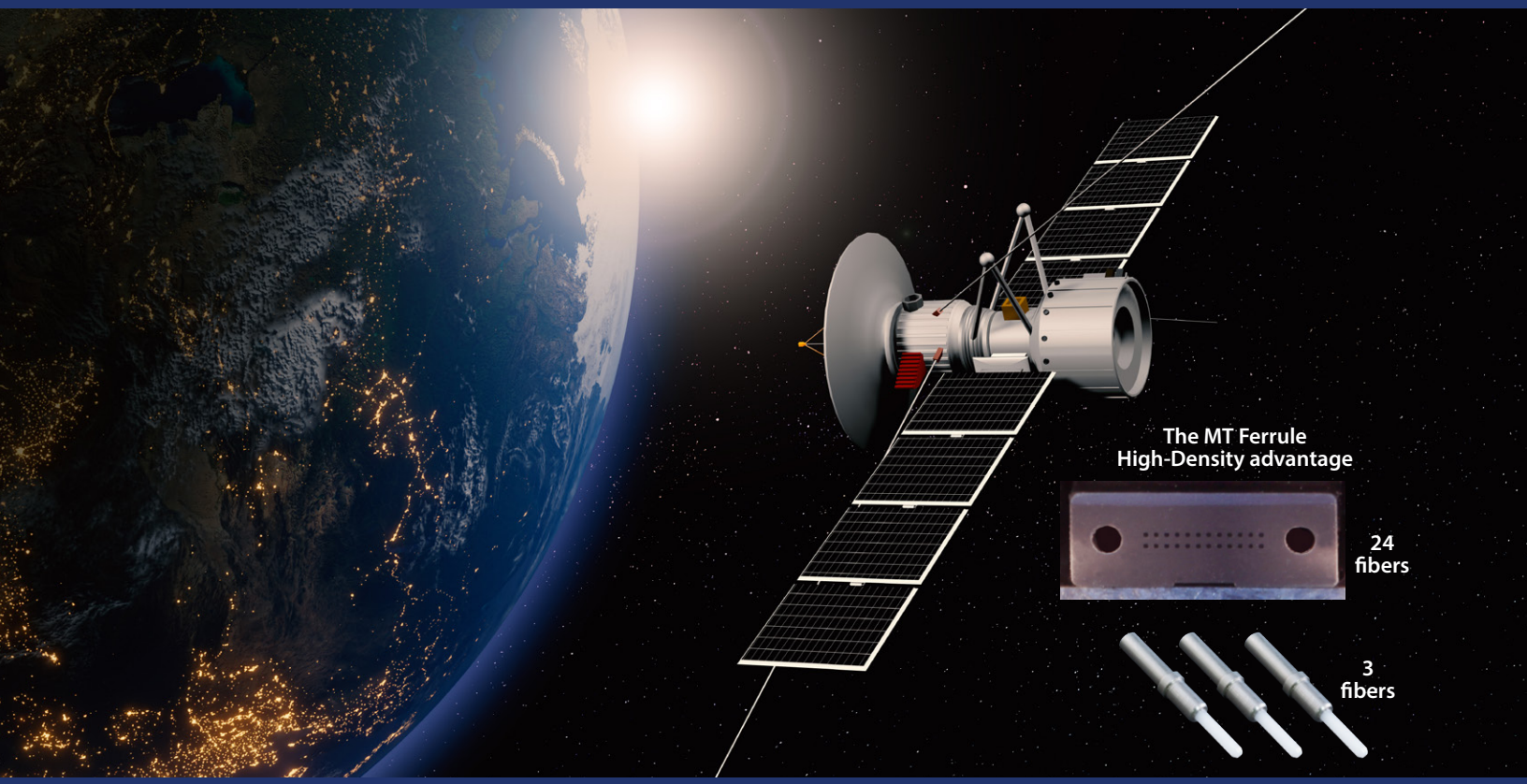
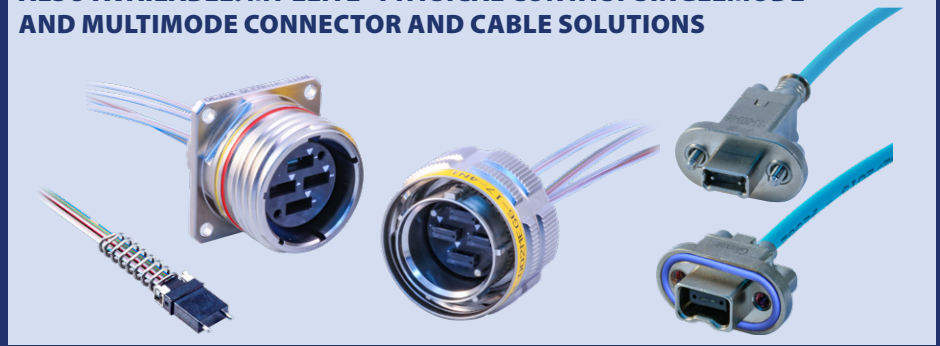
Rugged Fiber Optic CONNECTORS

Rugged high-density PRIZM® MT **Expanded Beam** and MT Elite® **PC** fiber optic systems



Easy-to-use, harsh environment, super high-density PRIZM® MT expanded-beam fiber optic assemblies in Glenair ruggedized I/O and backplane connector packaging

ALSO AVAILABLE: MT ELITE® PHYSICAL CONTACT SINGLEMODE AND MULTIMODE CONNECTOR AND CABLE SOLUTIONS



- **Glenair is qualified by US Conec to terminate one- and two-row PRIZM® MT ferrules for both ribbon and round fiber optic cable**
- **Available as turnkey, factory-terminated PRIZM® MT expanded beam assemblies—fully ruggedized for harsh air and space applications**
- **Highest-density fiber optic solution with reliable, repeatable optical performance**
- **Outstanding stability under shock and vibration conditions**
- **PRIZM® MT provides outstanding tolerance to debris contamination**

RUGGED HIGH-DENSITY

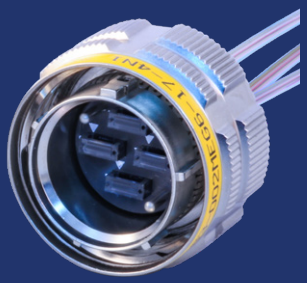
Fiber Optic Connection System: MT Ferrule Elite and Expanded Beam

Qualified, terminated MT ferrule assemblies

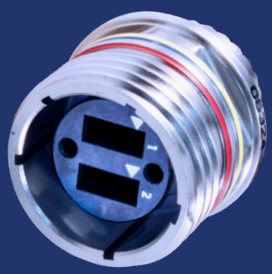
Glenair US and UK are qualified by US Conec to terminate 1 and 2 row PRIZM® MT and ferrules for ribbon and round cable fiber

PRIZM® MT is a monolithic optical fiber ferrule that integrates microlenses and mechanical alignment features into a single component. The design provides low insertion loss and return loss for up to 32 fibers and is optimally resistant to debris contamination. Glenair supplies the PRIZM MT ferrule in factory-terminated cable assemblies for both inside-the-box as well as environmental point-to-point applications. Ruggedized aerospace-grade I/O and backplane connectors are also available for use with standard MT Elite® physical contact (PC) ferrules. MT Elite compatible connectors and ferrule kits are ordered separately for complete convenience in the implementation of both singlemode and multimode fiber optic datalinks.

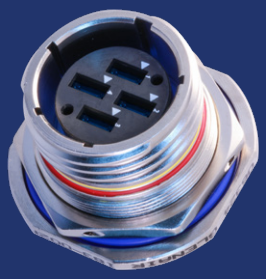
SUPERNINE MT CONNECTOR CONFIGURATIONS



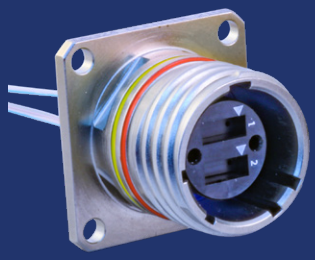
Cable Plug



In-Line Receptacle

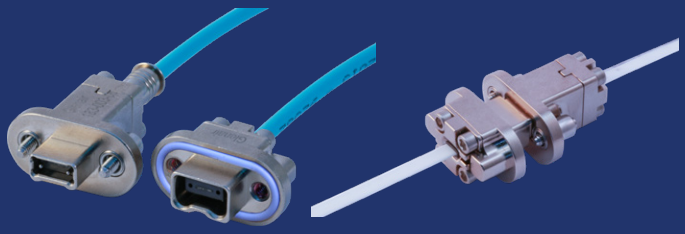


Jam-Nut Receptacle



Panel-Mount Receptacles

SERIES 79 MT CONNECTOR CONFIGURATIONS



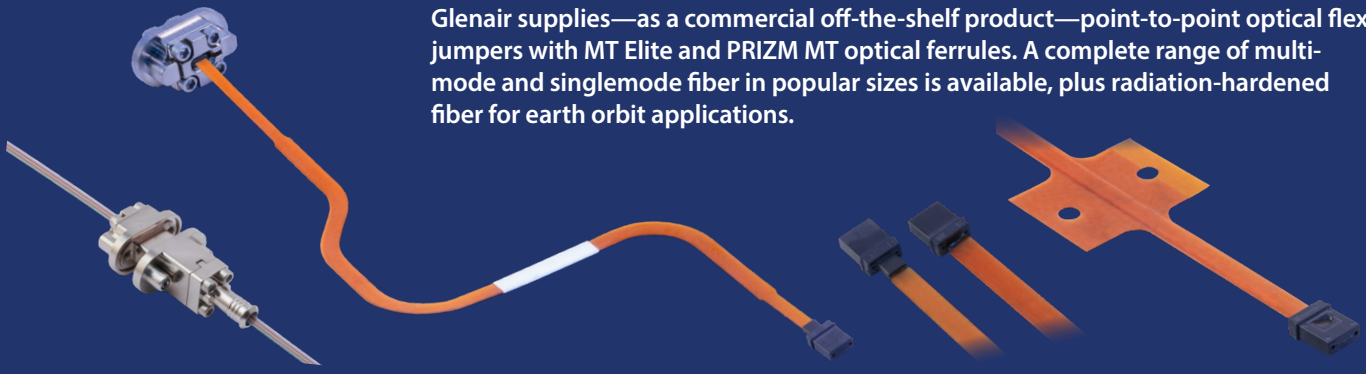
Plugs and receptacles with integrated banding porch, retaining plates, or EMI gasket for ribbon or round fiber media supporting both MT Elite® and PRIZM® MT ferrules.

VITA 66 STYLE MT CONNECTORS

VITA 66.1 and 66.4 format.
Discrete backplane connectors and MT ferrule assemblies.

CATALOG FAST-TURNAROUND "ASAP" MT OPTICAL FLEX JUMPERS AND CABLE ASSEMBLIES

Glenair supplies—as a commercial off-the-shelf product—point-to-point optical flex jumpers with MT Elite and PRIZM MT optical ferrules. A complete range of multi-mode and singlemode fiber in popular sizes is available, plus radiation-hardened fiber for earth orbit applications.



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Rugged Fiber Optic CONNECTORS

Series 806 Mil-Aero: Micro D38999 type packaging, high-density size #20HD termini

Series 806 Mil-Aero fiber optic solutions available as discrete components or in turnkey cable assembly packaging

Innovative fiber optic / electrical connector design meets key performance benchmarks for harsh vibration, shock, and environmental settings in rigid conformance with MIL-DTL-38999 Series III–but at nearly half the size and weight.

SAVE SIZE AND WEIGHT WITH SERIES 806 CONNECTORS

Series 806 Mil-Aero
smallest shell (size 8)
.500 in. mating threads
3 Size #20HD electrical or
optical contacts / termini

MIL-DTL-38999
smallest shell (size 11)
.750 in. mating threads
2 Size #16 electrical or
optical contacts / termini

- **Next-generation small form factor aerospace-grade circular connector**
- **High density 20HD fiber termini arrangements**
- **Designed for harsh application environments such as military and commercial aircraft**
- **Outstanding environmental, electrical, optical, and mechanical performance**
- **Integrated anti-decoupling technology**
- **High-performance ceramic ferrule rear-release termini design**

MICRO D38999-TYPE

Fiber Optic Connection System: Sr. 806 Mil-Aero

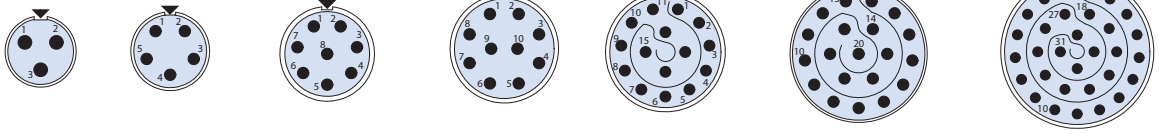
Aerospace-grade connectors · #20HD termini
Turnkey integrated cable assemblies

Glenair manufactures and supplies mil-qualified termini for use in MIL-DTL-38999 Series III type connectors including Glenair SuperNine, ARINC 801, and Glenair High Density (GHD). The Series 806 Mil-Aero is our highest density connector series built IAW D38999 Series III specifications—including vibration, shock, and high-altitude immersion. In fact, the Series 806 conforms to every MIL-DTL-38999 Series III standard requirement, but does so in a micro miniature reduced size and weight format, which now includes fiber optic configurations with size 20HD pin and socket termini. These ultra high density fiber optic termini are snap-in, rear release designs featuring precision ceramic ferrules and alignment sleeves for accurate fiber alignment. Typical insertion loss 0.5 dB. Fits 50/125 and 62.5/125 multimode and 9/125 singlemode fiber. Connectors are available with accessory thread or band shield termination porch for easy termination of optical media Kevlar strength member or EMI shielding (hybrid applications).

SERIES 806 ARRANGEMENTS COMPATIBLE WITH #20HD FIBER OPTIC TERMINI

Mating face of pin connector. Socket numbering is reversed.

Symbol ▼ indicates master key location.

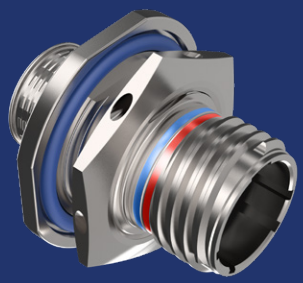


Arrangement No.	8-3	9-5	10-8	11-10	12-15	14-20	16-31
No. of Termini	3	5	8	10	15	20	31

PLUG AND RECEPTACLES AVAILABLE WITH ACCESSORY THREADS OR SHIELD TERMINATION PORCH

Cable Plug

Square-Flange Receptacle



Jam-nut Receptacle

In-Line Receptacle

20HD FIBER OPTIC TERMINI FOR SERIES 806 MIL-AERO CONNECTORS

Single or multimode. Ceramic ferrule. 0.5 dB loss. Size 20HD fiber optic termini are compatible with Series 806 connectors with size 20HD contact arrangements. These snap-in, rear release termini feature precision ceramic ferrules and alignment sleeves for accurate fiber alignment. Typical insertion loss 0.5 dB. Fits 50/125 and 62.5/125 multimode and 9/125 singlemode fiber.

MATERIAL/FINISH

- Ferrule, alignment sleeve: zirconia ceramic
- Body, shroud: copper/nickel/zinc alloy
- Spring (socket, not shown): SST/passivated
- Protective cover (socket): BeCu alloy/nickel plated

HOW-TO-ORDER 20HD FIBER OPTIC TERMINI FOR SERIES 806 CONNECTORS

Termini Type	Optical Fiber Type	Part Number	ØA Ferrule Hole	Fiber Size Core/Cladding
Pin	Singlemode	181-134-1255	125.5 microns	9/125
Pin	Multimode	181-134-126	126.0 microns	50/125, 62.5/125
Socket	Singlemode	181-135-1255	125.5 microns	9/125
Socket	Multimode	181-135-126	126.0 microns	50/125, 62.5/125

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Rugged Fiber Optic CONNECTORS

SuperNine® tight-tolerance MIL-DTL-38999 Sr. III type fiber optic connection system

The high-performance MIL-DTL-38999 type fiber optic interconnect system with qualified MIL-PRF-29504/4 and /5 termini, successfully deployed in hundreds of commercial and military aerospace and other rugged applications–from F-16 upgrade systems to the revolutionary F-35 Joint Strike Fighter.

Terminated and tested point-to-point and multibranch D38999 type fiber optic cable assemblies

- **Composite, aluminum, and stainless steel shells available**
- **Qualified size #16 MIL-PRF-29504 /4 and /5 precision ceramic termini**
- **Singlemode and multimode fiber, from 9/125 to 1000 microns**
- **Ultra-low insertion loss, <.50dB typical**
- **From 2 to 37 Termini**
- **Plug and in-line, jam nut, and square flange receptacles**
- **Patented MIL-DTL-38999 fiber optic test probes and adapters**

MIL-DTL-38999 SERIES III TYPE

Fiber Optic Connection System: SuperNine

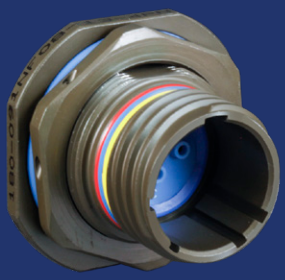
Tight-tolerance connectors · MIL-PRF-29504 /4 and /5 qualified termini
Turnkey integrated cable assemblies

ABOUT MIL-DTL-38999 SERIES III TYPE FIBER OPTICS

Glenair's complete line of multi-channel MIL-DTL-38999 Series III Type fiber optic products includes qualified size 16 MIL-PRF-29504 /4 and /5 precision ceramic termini, and commercial large-core and jewel size 16 termini, as well as high-density size 20 termini. Tight-tolerance fiber optic connectors, backshells, and accessories IAW MIL-DTL-38999 Series III (Glenair SuperNine®) are available in metal and composite versions.

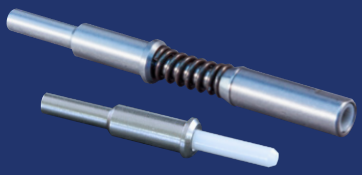
Plug

In-Line Receptacle

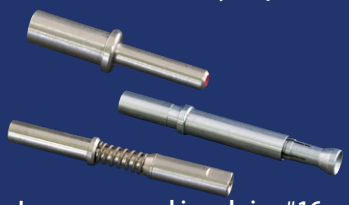


Jam-Nut Receptacle

Panel-Mount Receptacle



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



Large-core and jewel size #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)**

MATERIAL AND FINISH		
Code	Material	Finish Description
MA	Aluminum	Electroless Nickel, Matte
ME		Electroless Nickel
MT		Nickel-PTFE, Gray
NF		Cadmium, Olive Drab
TZ		Tin-Zinc, Green-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

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.

* Optical Insertion Loss values when tested in Tight Toleranced Connectors

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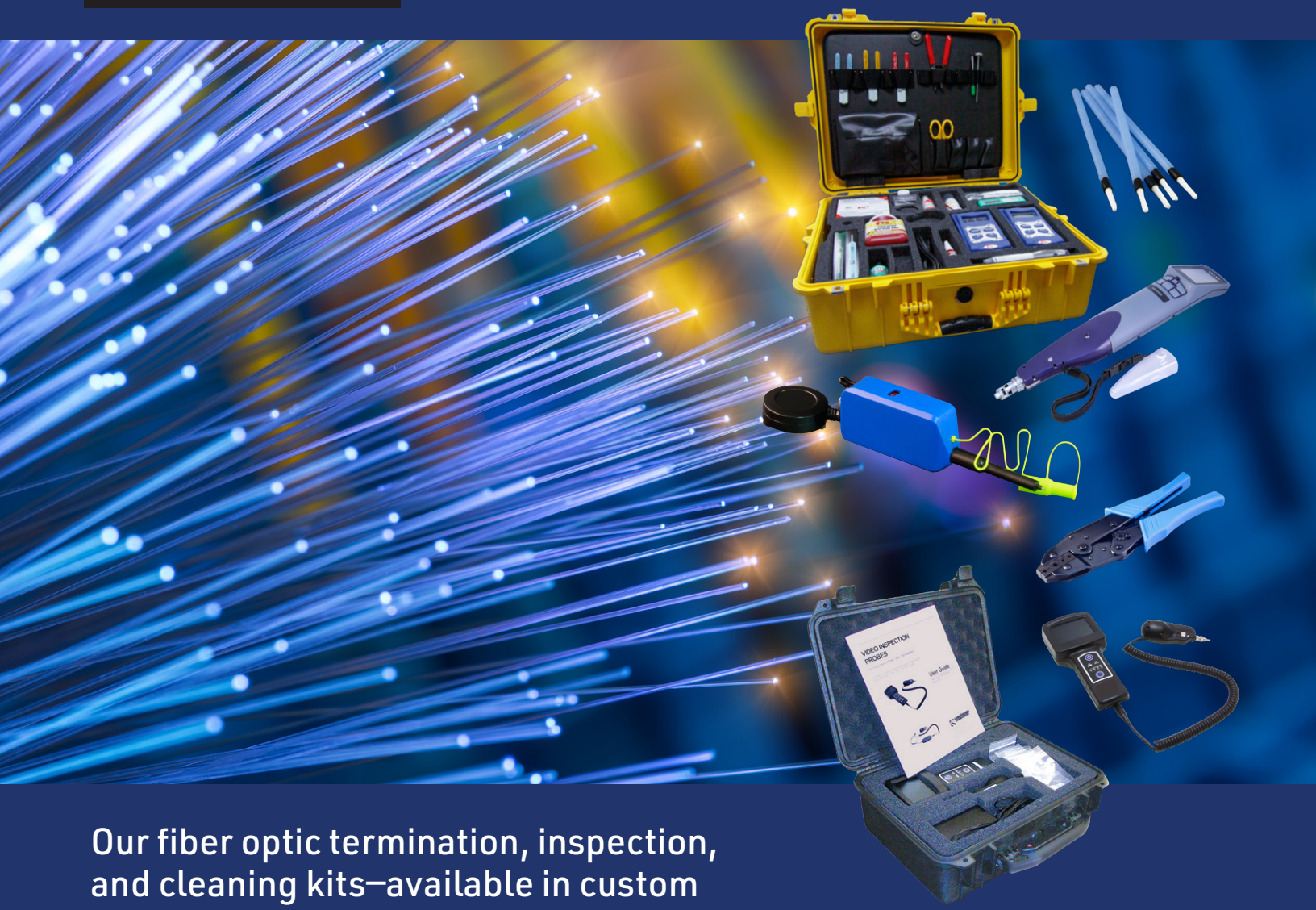
Rugged Fiber Optic CONNECTORS

Fiber optic termination, inspection, cleaning, and troubleshooting **tools** and **custom kits**



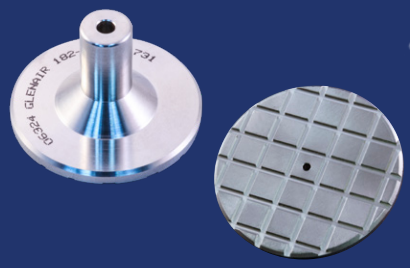
Our fiber optic termination, inspection, and cleaning kits–available in custom configurations from both our US and UK F/O operations–allow lab and field technicians to perform reliable assembly, inspection, and cleaning of fiber optic systems. Glenair termination kits are equipped with all the necessary tools–polishing pucks, jacket strippers, shears, scribes, dry-action cleaning tools, test probes and adapters, and more–everything required for ongoing termination and test of fiber optic systems.

- **Comprehensive tooling for all Glenair fiber optic interconnect systems**
- **Discrete tools and bespoke kits. Everything from pin and socket polishing tools to jacket strippers, shears, scribes, inspection probes, and cleaning apparatus**
- **Inspection and testing instructions offer solutions to optical test and measurement**

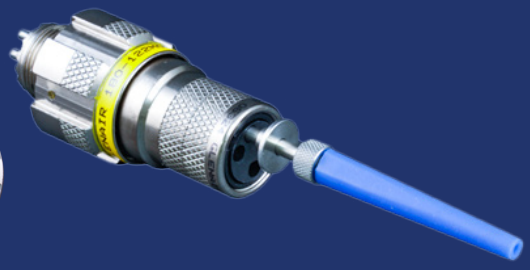
Fiber Optic Termination, Inspection, and Troubleshooting

The right fiber optic tool for the job

Fiber optic connectors are designed to be connected and disconnected many times without affecting the optical performance of the fiber circuit. Optimal performance can be achieved by following the correct process for termination of the fiber line—a task that requires the use of highly-specialized tooling. Glenair's extensive experience in building fiber optic interconnect cables enables us to select the right tools for each step in the termination and assembly process, as well as optimal tooling for inspection, test, and cleaning. Our Fiber Optic Termination and Test Probe Kits allow field technicians the convenience of completing final termination of precision termini on site for easy and efficient cable routing and installation. Polishing tools are also sold separately for factory use or as replacement parts in field termination kits. Other specialty tools such as hand-held inspection monitors and dry- and wet-action cleaning tools are also available.



Polishing pucks

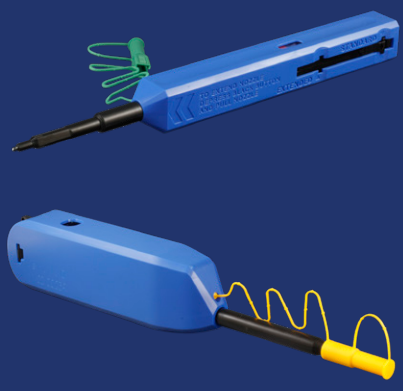


Test probes and adapters

Fiber optic test probe and adapter kits

Video bore scope inspection kits

Hand-held inspection monitor



Dry-action cleaning tools

GLENAIR FIBER OPTIC INSPECTION AND TESTING VIDEO INSTRUCTION

For more information on Glenair's patented Fiber Optic Test Probe and Connector Adapter System and complete video instruction, visit www.glenair.com or our YouTube channel at www.youtube.com/@Glenair. Other Glenair fiber optic video instruction covering such topics as fiber optic cleaning and testing, termini insertion and removal, cable preparation and assembly are also available on the site.

FIBER KING

FIBER OPTIC CABLES

Turnkey Optical Flex circuit assembly with rugged MT ferrule terminations

Glenair is the worldwide leader in military, aerospace, and harsh-environment fiber optic interconnect assemblies. We manufacture every element in-house, from low-loss simplex, duplex, and multi-line fiber optic cables, to precision termini, military and aerospace-grade connectors, backshells, and tools. Glenair FiberKing fiber optic cables are optimized for reliable, durable performance in military and commercial aviation, space, harsh-environment oil and gas, and multi-termination (MT ribbon) assemblies.

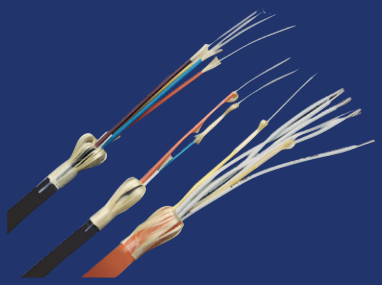
FiberKing Cables

- **Lightweight, tight bend-radius fiber optic cable for 10Gb+ avionic networks**
- **Vibration, radiation, and temperature-resistant space-grade F/O designs**
- **Ultra harsh-environment (high-pressure, high-temp, water-blocking) oil & gas industry fiber optic cable assemblies**
- **Ruggedized fiber optic ribbon cable for multi-fiber termination (MT) applications**

TURNKEY

Fiber Optic Cables and Harnesses

For rugged mission-critical applications



The FiberKing Mil-Aero (MA) Ecosystem

The FiberKing Mil-Aero (MA) Ecosystem is a complete flight-grade fiber optic interconnect solution for demanding military and commercial aerospace applications. This complete 10Gb+ low-loss fiber optic solution includes single- and multimode stepped and graded-index cables in simplex, duplex, and multi-line configurations. Glenair SuperNine and Glenair Front Release (GFR) fiber optic connectors are Glenair's signature offerings for high-speed, high datarate avionic networks. Cables and connectors are qualified to strict aviation industry standards for vibration, shock, moisture, and LSZH, and are rated to maximum optical loss (dB / km) at 850 nm ≤ 5.0 and at 1300 nm ≤ 3.0. Multimode cables are OM4 graded-index. Singlemode cables are OS1 stepped-index.

Hybrid optical / electrical assembly for weight reduction in a high-speed datalink application

Harsh environment overmolded MIL-DTL-38999 Series III type composite

High-density Next-Generation (NGCON) fiber optic harness assembly

Specialized MT ribbon fiber low-profile molded breakout capabilities

Cable reels and field-deployment technologies for both Glenair GFOCA and Eye-Beam™ GMA fiber optic systems

GFOCA I/O-to-board assembly with overbraiding for mechanical protection

Inside-the-box MIL-DTL-38999 type I/O connector to board cable harness

F G H I J K L M N O P Q R S T U V W X Y Z

OPTIMIZED FOR USE WITH

MIL-STAR™

HIGH-PERFORMANCE HOOKUP WIRE AND CABLE

filter connectors

EMI/RFI filter connectors and EMP suppression: planar array power, signal, and TVS solutions

All diode-equipped EMP inserts and planar array EMI filter inserts produced in-house

Planar filter array and TVS diode connectors in standard catalog as well as build-to-order configurations

TABLE I: CAPACITOR ARRAY CODE / CAPACITANCE RANGE		
Class	Pi - Circuit (pF)	C - Circuit (pF)
X	160,000 - 240,000	80,000 - 120,000
Y	80,000 - 120,000	40,000 - 60,000
Z	60,000 - 90,000	30,000 - 45,000
A	38,000 - 56,000	19,000 - 28,000
B	32,000 - 45,000	16,000 - 22,500
C	18,000 - 33,000	9,000 - 16,500
D	8,000 - 12,000	4,000 - 6,000
E	3,300 - 5,000	1,650 - 2,500
F	800 - 1,300	400 - 650
G	400 - 600	200 - 300
J	70-120	35-60

Planar filter arrays and TVS diodes may also be incorporated into rectangular connector packaging such as the Micro-D and Series 79 Micro-Crimp devices shown here.

- **Planar, multilayer ceramic capacitive filters, with and without transient voltage suppression diodes**
- **Space-grade plating and outgassing processing**
- **C and Pi electrical configurations**
- **PC tail, crimp, or solder cup termination**
- **35 – 240,000 pF capacitance**
- **Fast and reliable diode burn-in and test services**
- **Turnkey in-house manufacturing of all filter connector elements and processes**

PLANAR ARRAY

Filter Connectors for EMI/EMP Applications

Multilayer ceramic capacitive filters · TVS diode-equipped designs

Extended-shell PC-tail cylindrical filter with threaded standoff

Special-purpose filter connector cable adapter (Sav-Con®)

Custom reduced-length sidecar filter connector design

Series 80 Mighty Mouse PC-tail filter receptacle

Series 80 Mighty Mouse solder-cup filter receptacle with integrated banding porch

MIL-DTL-38999 type crimp-contact termination filter receptacle

MIL-DTL-38999 Series III type EMP TVS diode-equipped filter connector

MIL-DTL-83723 type filter connector, gold-plated for atomic oxygen corrosion resistance

Quick-disconnect circular with solder-free contact filter array

F G H I J K L M N O P Q R S T U V W X Y Z

A GLENAIR SIGNATURE

High-Rel Cable Assembly

CRITICAL COMPONENT

FULL NELSON

Heat Shrink Boots, Adapters, and Molded Shapes

Glenair Full Nelson boots: for reliable abrasion protection, strain relief, environmental sealing, splicing, and mechanical wire protection

Mil-qualified boots: M85049/140 (straight), /141 (right-angle), and /142 (transitions) plus NAVSEA-qualified heavy-wall Boots IAW 5617649

PIGGYBACK SHRINK-BOOT CONNECTOR ADAPTERS: FAST, EASY-TO-PERFORM ASSEMBLY

Environmental Piggyback boot adapter

EMI/RFI environmental Piggyback boot adapter with drop-in banding porch

EMI/RFI environmental "Band-in-a-Can" Piggyback boot and composite backshell

Environmental Piggyback boot cable feed-thru

Full-Nelson Heat-Shrink Boots, Adapters, and Molded Shapes

Abrasion protection · environmental sealing · splicing · strain relief

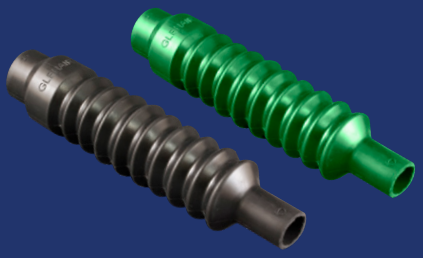
COMPLETE RANGE OF ENVIRONMENTAL HEAT-SHRINK BOOTS AND MOLDED SHAPES

Standard lipped or lipless boots

Long tail and high-ratio configurations

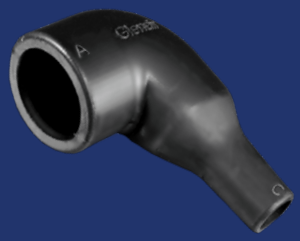
90° and 45° angle boots

SuperFly, Mighty Mouse, and D-subminiature configurations



Convoluted accordion boots

Y, T, and multibranch transitions



Space-grade shrink boots: low-outgassing fluoropolymer alloy material

SELECTED ENVIRONMENTAL SHRINK BOOT COLOR OPTIONS

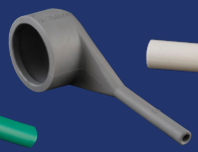
Olive drab 45° boot

Desert Tan widebody Y transition

Right-angle adapter, purple

4–1 widebody transition, yellow

Long-tail boot, green



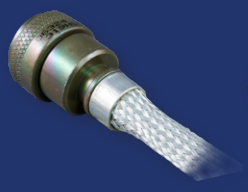
High-ratio right-angle adapter, grey

Low-profile 3–1 adapter, white

SHRINK BOOT ADAPTERS SELECTION GUIDE

Series 310 shrink boot adapters

Series 311 EMI/RFI lamp-base thread/boot adapters



Series 319 shield sock/boot adapters

Series 440 band/boot adapters

SAE-AS85049 QPL shrink boot adapters

Composite thermoplastic band/boot adapters

OPTIMIZED
FOR USE WITH
MIL-STAR™
HIGH-PERFORMANCE HOOKUP WIRE AND CABLE

GateLink Pro™

GateLink Pro™ high-speed data uplink connector

Environmentally-sealed breakaway design for high-speed data transfer between terminal gate and aircraft

Gatelink Pro™ connectors are exactingly designed to meet the needs of airport terminal-to-aircraft data uplinks. The IP68 sealed receptacle connector on the aircraft is designed for low profile environmental performance (available ProSeal™ protective cover adds additional environmental protection). Plug connectors are ruggedized for rough handling with pogo pin contacts and retention springs recessed deep into the plug to prevent damage. Designed for fast and reliable high-speed Ethernet data transfer up to 1Gb / second. Turnkey overmolded cable assemblies as well as discrete connectors and environmental shrink boots are available.

- **Durable pogo pin contact system rated to tens of thousands mating cycles**
- **Sealed receptacle available with ProSeal spring-action protective cover**
- **Straight or right-angle Autoshrink wire protection boots or rugged overmolded plug assemblies for reliable environmental protection**

IP68 SEALED

GateLink Pro™

High-speed data uplink connector

GATELINK PRO APPLICATIONS AND SOLUTIONS

Wired datalink interconnect access to the aircraft from the airline terminal gate supports various information domains and data types including aircraft traffic control, airline information services, passenger entertainment, weather, and so on. Airline operating center applications (flight plans, schedules, advisories) are quickly and reliably uploaded to the aircraft during turnarounds at the gate. Mechanical and environmental damage to the datalink interface is a common problem solved by GateLink Pro.

Overmolded environmental plugs and hybrid GateLink Pro to RJ45 cable sets

IP68 sealed receptacle with integrated ProSeal™ protective cover and Autoshrink™ environmental sealing / strain relief boot.

Mated GateLink Pro™ plug and receptacle cordsets with shielded twisted pair cabling. Plug side features environmental overmolding, receptacles side utilizes strain relief boot

GATELINK PRO SPECIFICATIONS

Voltage rating	500 VAC
Current rating	5 amps
Contact resistance	20 milliohms maximum
Plug-to-receptacle ground resistance	<5 milliohm
Maximum wire size	#24 AWG
Insulation resistance	5000 megohms min.
Water immersion	MIL-STD-810 Method 512, one meter for one hour
Durability	2000 mating cycles (receptacle)
Corrosion resistance	1000 hours
Sine vibration	EIA-364-28 condition IV, 20g peak
Random vibration	EIA-364-28 condition V letter H, 29g rms
Shock	EIA-364-27 condition D, 300g peak
EMI shielding effectiveness	40 dB minimum to 10 GHz

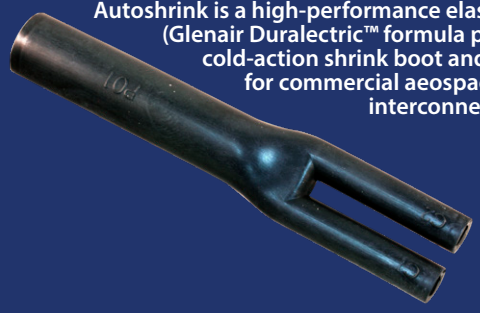
GATELINK PRO AVAILABLE ACCESSORIES

LEONARDO'S PROSEAL spring-action protective covers

Anti-vibration and shock spring-action solution • Self-aligning environmental seals

AUTOSHRINK™

Autoshrink is a high-performance elastomeric material (Glenair Duralectric™ formula polymer GPS67) cold-action shrink boot and jacket solution for commercial aeospace electrical wire interconnect systems



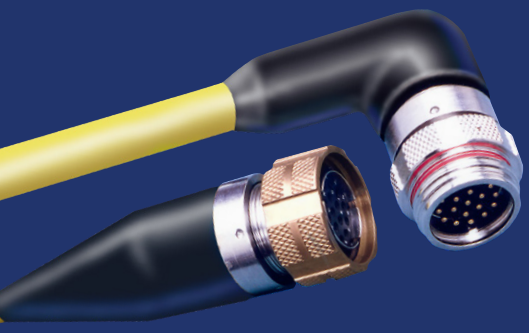
OPTIMIZED
FOR USE WITH
SeaKing
PRESSURE-RATED CABLES

Geo-Marine®

5000 psi pressure-rated harsh-environment connectors and overmolded cables

High-pressure harsh-environment connectors and overmolded cables for towed array and other shallow subsea applications

Designed for use in oceanographic, geophysical, and other severe industrial environments, Glenair Series 22 Geo-Marine® Connectors and Cables are the ultimate harsh-environment power and signal connector solution. Built to withstand hydrostatic pressures up to 5,000 psi and exposure to extreme temperatures and corrosives, the Series 22 Geo-Marine® is ideally suited for applications such as towed array sonar systems, submersibles and ROVs, offshore oil drilling equipment, seabed exploration, well monitoring equipment, and digital seismic streamers.



Geo-Marine® plugs are equipped with arctic coupling nuts—made from marine-grade naval bronze—with easy-to-grip castellated knurling and a powerful ratcheted anti-decoupling mechanism that guarantees reliable mating and demating performance in even the harshest environments. Supplied as discrete connectors—or more typically in build-to-print overmolded cable assemblies.

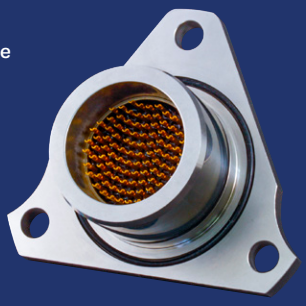
- **5000 psi pressure rated**
- **Marine Grade 316 stainless steel machined shells and Marine Bronze coupling rings**
- **High-pressure environmental and hermetically sealed receptacles for field applications**
- **Power and signal insert arrangements from 2 to 128 contacts**
- **Anti-vibration ratcheted coupling nuts with castellated knurling**
- **Available Viton® overmolded cable assemblies**

5000 PSI PRESSURE-RATED

Geo-Marine® Connectors

High-pressure fused-glass underwater / harsh-environmental connectors

Range of Offerings



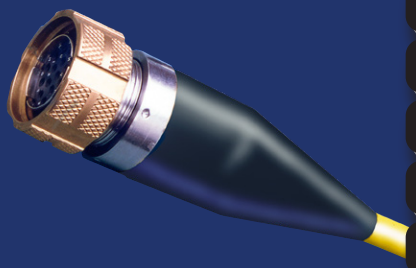
Series 22 Geo-Marine® connectors are supplied with either fused-glass or high-strength thermoset insulators. Both classes of connectors are supplied with rugged, corrosion-resistant materials. Low-profile and scoop-proof cable plugs and receptacles, as well as bulkhead feed-thrus, are available. Specially-designed cable sealing backshells as well as EMI/RFI shield termination backshells and environmentally-sealed protective covers complete the range of discrete product offerings. 35 insert arrangements (contact sizes #12, #16, #20 and #22) are tooled and fully available. Special in-line single-pin HTHP glass fused contacts also available.

WIDE RANGE OF PLUG CONFIGURATIONS WITH ANTI-GALLING ARCTIC COUPLING NUTS

Cable plug with accessory threads

Cable plug with overmold adapter

Panel-mounted plug

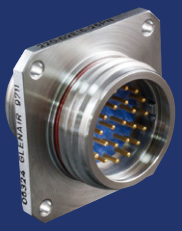


Factory overmolded plug

HIGH-PRESSURE ENVIRONMENTAL AND FUSED-GLASS RECEPTACLE CONFIGURATIONS

Jam nut

In-line



Square flange

Solder-mount

Bulkhead feed-thru

Single-pin HTHP

RUGGEDIZED STAINLESS STEEL BACKSHELLS AND OTHER CONNECTOR ACCESSORIES

Environmental strain relief backshell

Overmolding adapter

Right-angle strain relief backshell

Environmentally sealed protective covers

G H I J K L M N O P Q R S T U V W X Y Z

OPTIMIZED
FOR USE WITH
BLUMARK RF
COAX CABLES

GM8 RF

RF / microwave assemblies built with signature-performance

GM8 multi-port housings, low-loss cables, and high-frequency connector contacts

Two designs of the connector housing are supplied: the GRF18 with signature polarization lobes, and the GRF17 legacy standard intermateable.

The Glenair GM8 signature multi-port interconnect system is ruggedized for use in inside-the-box as well as harsh environmental / vibration and shock applications, and is qualified to meet the rigorous performance specifications of MIL-T-81490 and MIL-DTL-87104. Glenair vapor-sealed (hermetic) GM8 connector and cable assemblies offer excellent protection against humidity with excellent phase tracking characteristics, low VSWR, and low insertion loss up to 18 GHz. Supplied in two jackscrew-mating formats: a signature design with integrated primary and secondary polarization, and an intermateable design. Single- and dual-row insert arrangements with straight, 45°, and 90° cable exits for optimized routing.

- **18 GHz operating frequency with better than 100 dB of isolation between channels**
- **GRF18 series prevents mismating with primary and secondary polarization**
- **Fixed connector interfaces or replaceable scoop-proof interfaces**
- **Hermetically-sealed connector housing and contacts**
- **Spring-loaded connector interfaces deliver industry-best electrical and signal performance**
- **Optimized for use with Glenair BluMark RF cables**

HERMETICALLY-SEALED

GM8 Multi-Port Interconnect Systems

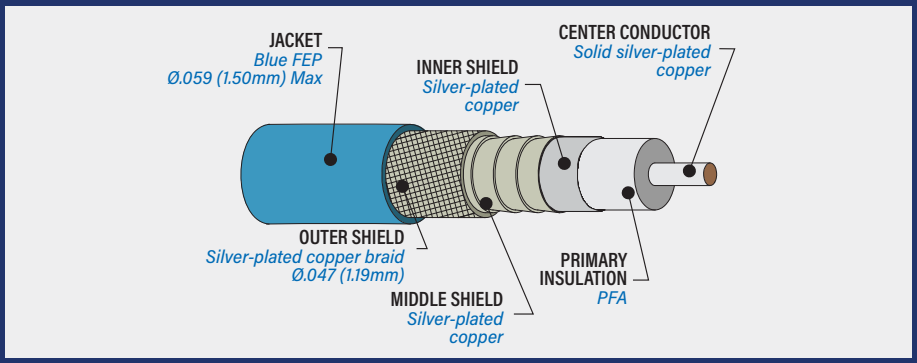
Drop-in, high-performance replacements for industry-standard M8-type assemblies plus Glenair signature designs

ABOUT GM8 RF MULTI-PORT INTERCONNECTS

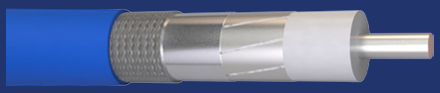
The Glenair GM8 multi-port RF series is a coaxial connector family that allows multiple high-frequency signals to be transmitted or received simultaneously via a single multi-port shell. Two styles of GM8 housings are supplied in space-saving multi-port single-, double- and triple-row configurations with up to 24 ports, to accommodate a 50 Ohm coaxial cable. Glenair signature GRF18 housings feature primary and secondary polarization. A standard M8-intermateable design is also available. Both versions are supplied in various configurations including panel-mount, bulkhead, and cable-to-cable, for use in flight radar, antenna systems, RF switches, and signal processing and distribution systems. Individual connector contacts are equipped with improved lead-in radius and O-ring sealing for dielectric isolation and hermetic performance.

GLENAIR BLUMARK RF CABLE 962-025-047 / -086 FOR INSIDE-THE-BOX APPLICATIONS

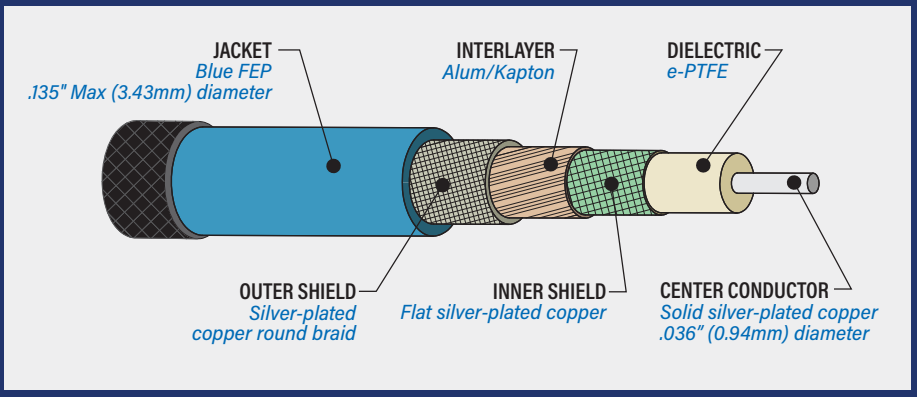
- 50 ohm / up to 70 GHz
- -65° to +165° C
- .056" and .104" diameters
- >90 dB shield effectiveness
- Double shield: braid over tape wrap



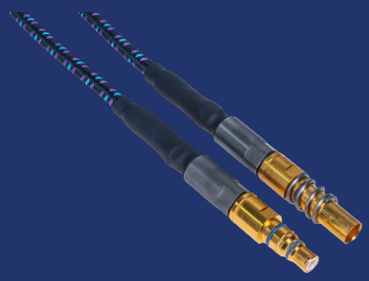
GLENAIR BLUMARK RF CABLE 962-032 -130 THRU -300 FOR HARSH ENVIRONMENTAL APPLICATIONS



- 50 ohm / up to 40 GHz
- -65° to +200° C
- FEP jacket, e-PTFE dielectric
- >95 dB shield effectiveness
- Low attenuation



ABOUT GM8 FIXED AND REPLACEABLE FRONT-END INTERFACE CONNECTORS AND CABLES



- Improved lead-in radius for contact misalignment accommodation
- Scoop-proof protection on replaceable front-end interface designs
- Optimized for low-loss Glenair BluMark RF cable assemblies
- Cable size support: 130, 160, 200, 235, and 300
- Rear-mount configuration
- Insertion and removal tooling
- Ships with ESD-safe O-ring protector

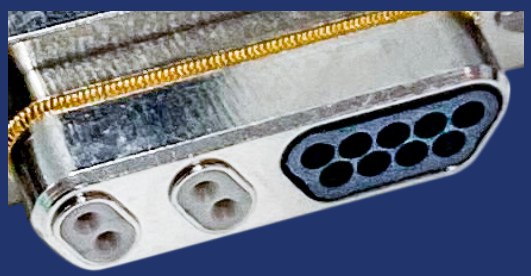
OPTIMIZED
FOR USE WITH
SpeedLine™
High-Speed Protocol Cables

GMMD

The Modular Micro-D Twinax / RF Coax High-Speed Solution

Twinax and hybrid twinax jumpers and pigtails supplied with SpeedLine 963-065-30 100 Ohm shielded twisted pair cable

GMMD: an innovative modular Micro-D connector for RF coax and high-speed differential datalink applications. The unique micro miniature design of the GMMD also accommodates standard analog signal and power contacts, making it the most versatile Micro-D rectangular in the industry. GMMD leverages Glenair Signature Micro and Nano TwistPin contact inserts, as well as ultra small form-factor differential twinax modules delivering 18 Gb/second per pair and RF to 20 GHz. GMMD is supplied as factory-terminated pigtails, point-to-point jumpers, and SMT receptacles for easy PCB mounting.



Glenair Signature Twinax contact modules (left) are fully shielded for outstanding cross-talk isolation and signal integrity. Standard Micro-D TwistPin contact modules deliver reliable performance IAW MIL-PRF-83513.

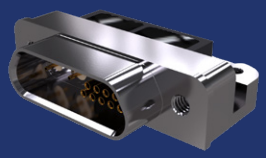
- **Low crosstalk, high bandwidth twinax modules for 18Gb/s per pair and RF up to 20GHz**
- **Cable and 90° PCB configurations for matched 100 Ohm differential impedance performance from I/O to board**
- **SMT receptacles for easy PCB mounting**
- **Combo layouts include twinax, 50 and 75Ω coax, mixed signal and power**
- **TwistPin contacts for low resistance and high shock and vibe performance**
- **Standard Micro-D shell sizes and hardware**

MICRO MINIATURE

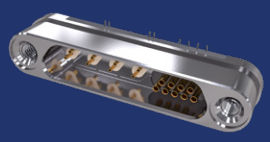
GMMD Modular High-Speed Micro-D Connectors

Twinax, Coax, and Combo contact arrangements

GMMD DISCRETE CONNECTORS AND PIGTAIL / JUMPER ASSEMBLIES



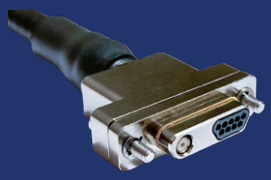
Horizontal PCB-mount twinax and combo twinax receptacles



Vertical PCB-mount twinax and combo twinax plug and receptacles

Twinax and combo twinax jumpers and pigtails

Horizontal PCB-mount coax and combo coax receptacles



Coax and combo coax jumpers and pigtails

GMMD TWINAX AND COMBO TWINAX CONTACT ARRANGEMENTS (additional arrangements are available, consult factory)

Contact Arrangement	**2T**	**4T**	**2T9**	**2T15**	**4T9**
Shell Size	9	15	21	25	31
No. / type of contacts	2 Twinax	4 Twinax	2 Twinax, 9 #24	2 Twinax, 15 #24	4 Twinax, 9#24
Example applications	SpFi	10GbE, 2xSATA, SpW, 2xSpFi	USB 3.1, SATA + power		HDMI, DP, DVI, 10GbE + power

Contact Arrangement	**5T9**	**8T**	**4T15**	**8T15**	**4T31**	**12T**
Shell Size	31	31	37	51-2	51-2	51-2
No. / type of contacts	5 Twinax, 9 #24	8 Twinax	4 Twinax, 15 #24	8 Twinax, 15 #24	4 Twinax, 31 #24	12 Twinax
Example applications	DP incl. Aux channels	2x10GbE		DP or HDMI + USB 3.1, dual DVI		

Contact Arrangement	**12T15**	**6T37**	**8T31**	**16T**
Shell Size	67	67	67	67
No. / type of contacts	12 Twinax, 15 #24	6 Twinax, 37 #24	8 Twinax, 31 #24	16 Twinax
Example applications				4x10GbE

GMMD COAX AND COMBO COAX CONTACT ARRANGEMENTS (additional arrangements are available, consult factory)

Contact Arrangement	**2C**	**4C**	**6C**
Shell Size	9	21	25
No. / type of contacts	2 X 50Ω Coax	4X 50Ω Coax	6X 50Ω Coax

Contact Arrangement	**8C**	**16C**
Shell Size	37	67
No. / type of contacts	8 X 50Ω Coax	16X 50Ω Coax

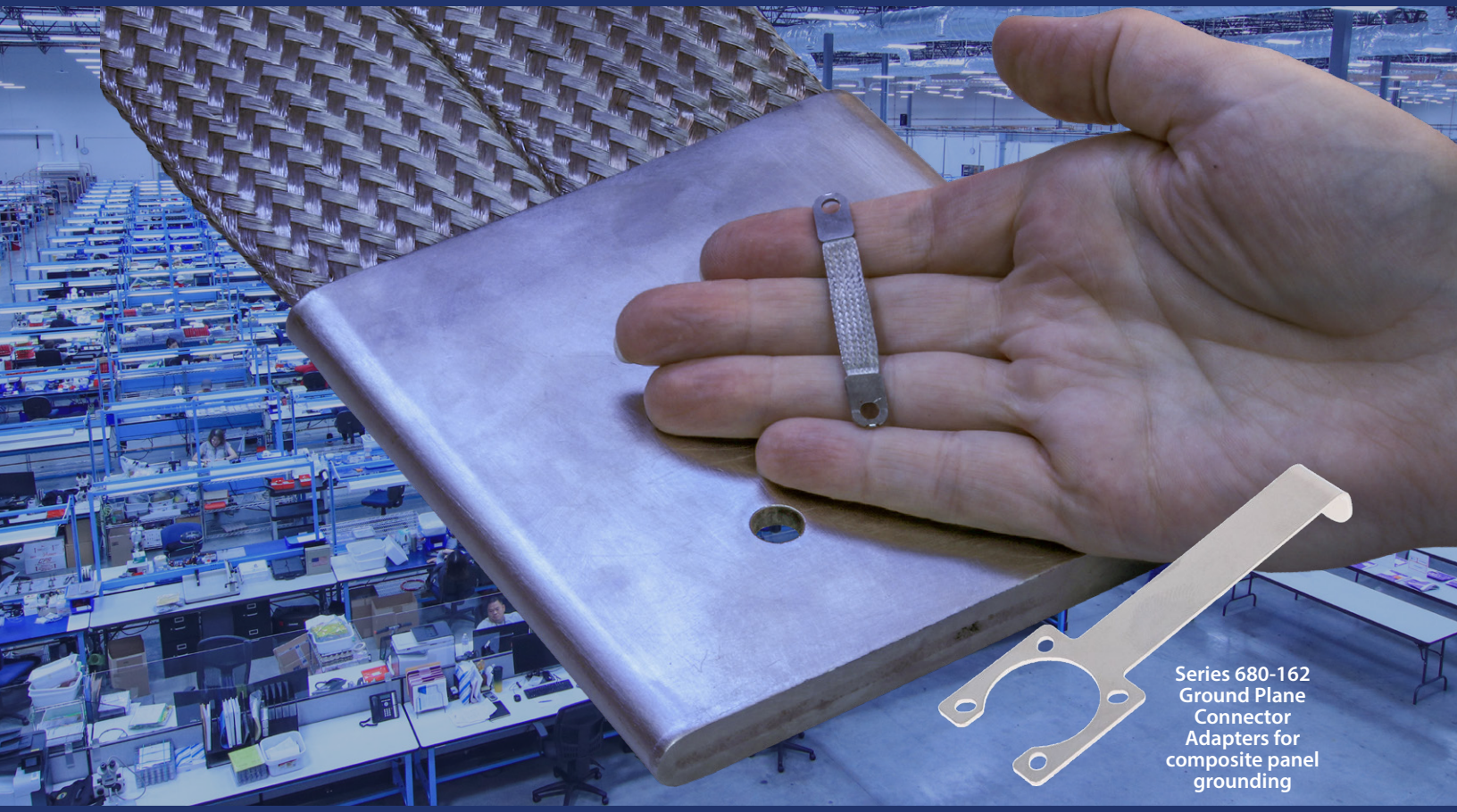
Contact Arrangement	**2C9**	**1V9**	**2V9**	**4V**
Shell Size	21	21	31	21
No. / type of contacts	2X 50Ω Coax, 9 X #24	1 X 75Ω Coax, 9 X #24	2 X 75Ω Coax, 9 X #24	4 X 75Ω Coax

A GLENAIR SIGNATURE

High-Rel Cable Assembly

CRITICAL COMPONENT

Ground straps, ESD bonds, busbars and shunts–Glenair signature and QPL flexible braided solutions



Series 680-162 Ground Plane Connector Adapters for composite panel grounding

Glenair flexible braided ground straps are critical components in harsh sea, air, and space environments. They are used to establish reliable ground path connections, dissipate lightning strike energy, and prevent the build-up of electrostatic discharge. Special large form-factor straps are also employed in busbar applications for electrical power distribution up to 1000 Amps. Special-purpose heat dissipation conductors find use in satellite and space applications.

Glenair supplies a complete range of lugged flexible braided bonding, grounding, heat dissipation, and power distribution solutions with lightweight ArmorLite microfilament material as well as low-resistance plated copper. In addition to high-availability catalog designs, we also supply custom solutions in virtually any form factor, wire gauge, amperage, resistance, and mounting-lug configuration. Straps may also be supplied with and without insulation jacketing in wire rope (jumper) and flat profiles.

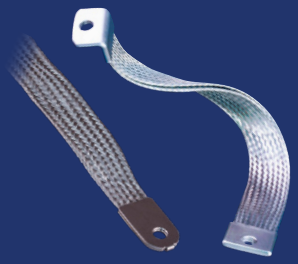
QPL qualified

PRODUCT LINE OFFERINGS

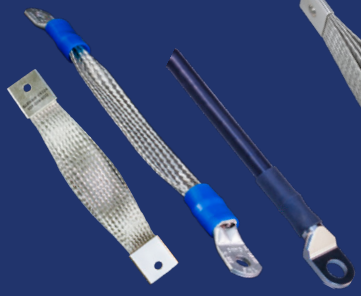
- **Durable, low-resistance ground straps with highly conductive or dissipative performance**
- **Lightweight, low-resistance flexible bond straps for ESD dissipation**
- **Heavy-duty variants for low-voltage, high-current power distribution busbar applications**
- **Mil-qualified (QPL) straps are available for both topside and submarine applications**

Ground Straps, Bonds, and Busbars

Flexible braided mil-spec and Glenair signature lightweight designs

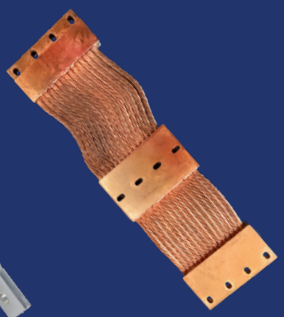


Ultra flexible, lightweight ArmorLite microfilament ground straps and bonds



Flat and round cross-section straps, plus wire rope jumpers

High current AC and DC flexible busbars and shunts

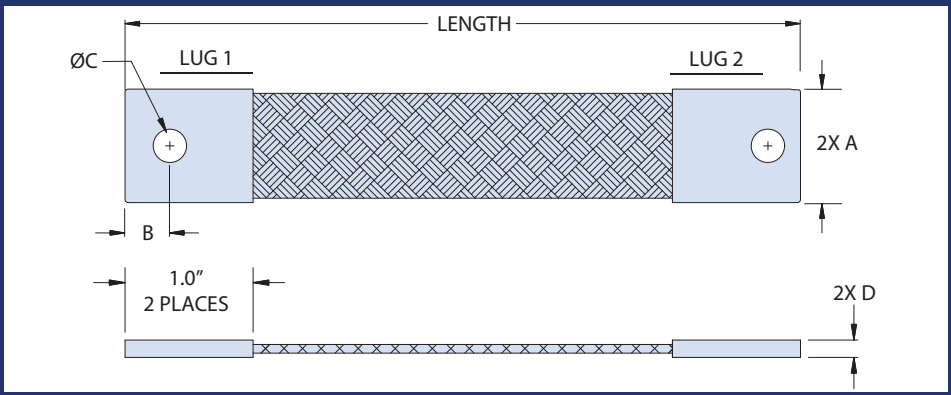


Flexible thermal (heat) dissipation strap

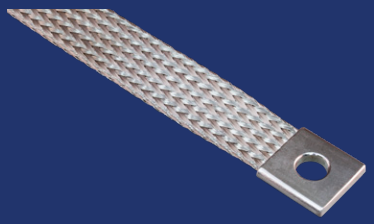
Harsh-environment jacketing for user safety and short-circuit prevention

107-086 GROUND STRAPS FOR SUBMARINE APPLICATIONS

- Materials and design in accordance with A-A-59569 for grounding bonds
- Low-profile nickel-plated copper lugs with configurable mounting hole size options
- Nickel-plated copper braid material conforms to ASTM B355

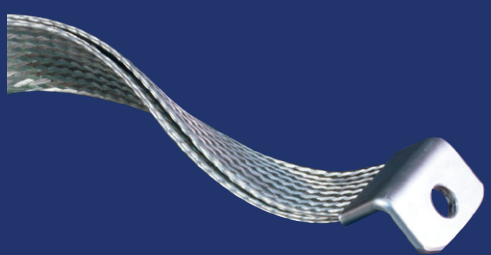


M24749 TYPE IV MIL-SPEC AND GLENAIR SIGNATURE "BETTER THAN QPL" CONFIGURATIONS



- Meets the rigorous specifications of MIL-DTL-24749 Rev. C with width, length, and lug configuration options beyond standard mil-spec straps
- Tested to survive 1000 hours salt spray
- Unique Stainless Steel/Nickel hybrid braid
- Lightweight, durable, configurable crimp lugs: square, radiused, straight, single- and double-right-angle versions

VARIABLE LUG / HOLE / STRAP CONFIGURATION OPTIONS AVAILABLE ON ALL STYLES



Choose single-layer straps or dual-layer for strength and electrical performance.

Available black or clear sleeving over strap. Square or radiused lugs and variable hole sizes.

Straight, single right-angle, and dual right-angle configurable lugs.

A GLENAIR SIGNATURE

High-Rel Cable Assembly

CRITICAL COMPONENT

GroundControl
EARTH BONDING SYSTEM

GroundControl Earth Bond / Ground Stud Installation System

Process- and Labor-Saving Ground Control Earth Bonds

The GroundControl Earth Bond system is designed for easy attachment of weldless ground studs to metal plate. The complete system includes hydraulic hand tools, a range of available ground studs, and ground strap fastening hardware. Easy one-hand operation setting tools are available for both thick and thin plate. Studs are a conductive bilaminar (copper core) design with extremely low electrical resistance. The system supports both through-hole and blind-hole installation. No surface preparation of the plate is required because the conductive ground path is via the internal drilled surface. Both UNC and metric thread studs are available.

- **Fast installation equals cost savings**
- **Universal application: may be applied to any suitable chassis location**
- **Bond installed from one side**
- **No surface preparation of bonding area required**
- **Minimal operator training needed**
- **Professional appearance and aesthetic**

EXPLOSION PROOF

The Glenair weld-free ground control system is ideally suited for use in Ex explosion-proof applications

FAST AND EASY

GroundControl Earth Bond / Ground Stud Installation System

Clean · weld-free · corrosion-resistant

GROUNDCONTROL EARTH BOND SYSTEM: TOOL SELECTION AND SPECIFICATIONS

The GroundControl Earth Bonding system is an efficient, easy-to-use method to create an electrical bond between structures and equipment for the secure passage of high intensity current in case of electrical short circuit.

HYDRAULIC SETTING TOOL SELECTION	
600-120	Hydraulic Setting Tool for 1/4" Earth Bonds
600-123	Hydraulic Setting Tool for 3/8" Earth Bonds
600-124	Hydraulic Setting Tool for M6 Earth Bonds
600-125	Hydraulic Setting Tool for M10 Earth Bonds
The tools feature one hand operation and ram retract mechanism actuated by release trigger. Consult factory for control gauges and earth bond part numbers for each material type and size.	

HYDRAULIC SETTING TOOL SPECIFICATIONS				
Part Number	Pulling Force	Weight	Length	Optional Test Gauge
PMT6	10KN	1.28 kg	185mm	80928
PMTC6	10KN	1.28 kg	185mm	80928
PMT8	18KN	1.28 kg	185mm	80928
PMT10	25KN	1.28 kg	185mm	80928

FAST AND EASY FOUR-STEP INSTALLATION PROCEDURE

1. Drill a hole, diameter dependent on thickness and size of bonding stud.
2. Screw the bond into the nose of the tool.
3. Position stud in hole and repeatedly press tool lever until calibrated end point is reached. Unthread tool from stud.
4. Attach the cable to the bond and tighten the nut.

The installation is complete!

G H I J K L M N O P Q R S T U V W X Y Z

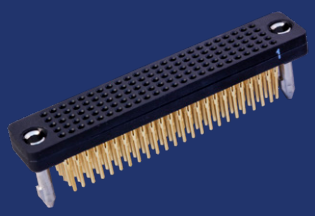
OPTIMIZED FOR USE WITH

AEROSPACE-GRADE SuperFlex™ PCB/FLEX CIRCUIT ASSEMBLIES

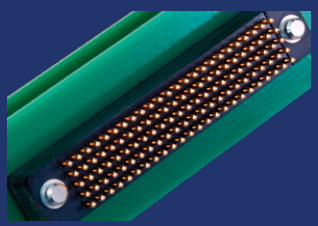
HD STACKER™

High-density, solder-free, compliant pin board-to-board stackable connectors

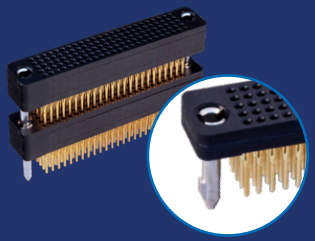
HD Stacker: the innovative mission-critical board-to-board connector with fail-safe signal integrity and rugged, reliable harsh-environment performance



Solder-free press-fit (compliant pin) board mounting



.0625" pitch contact spacing: highest available density



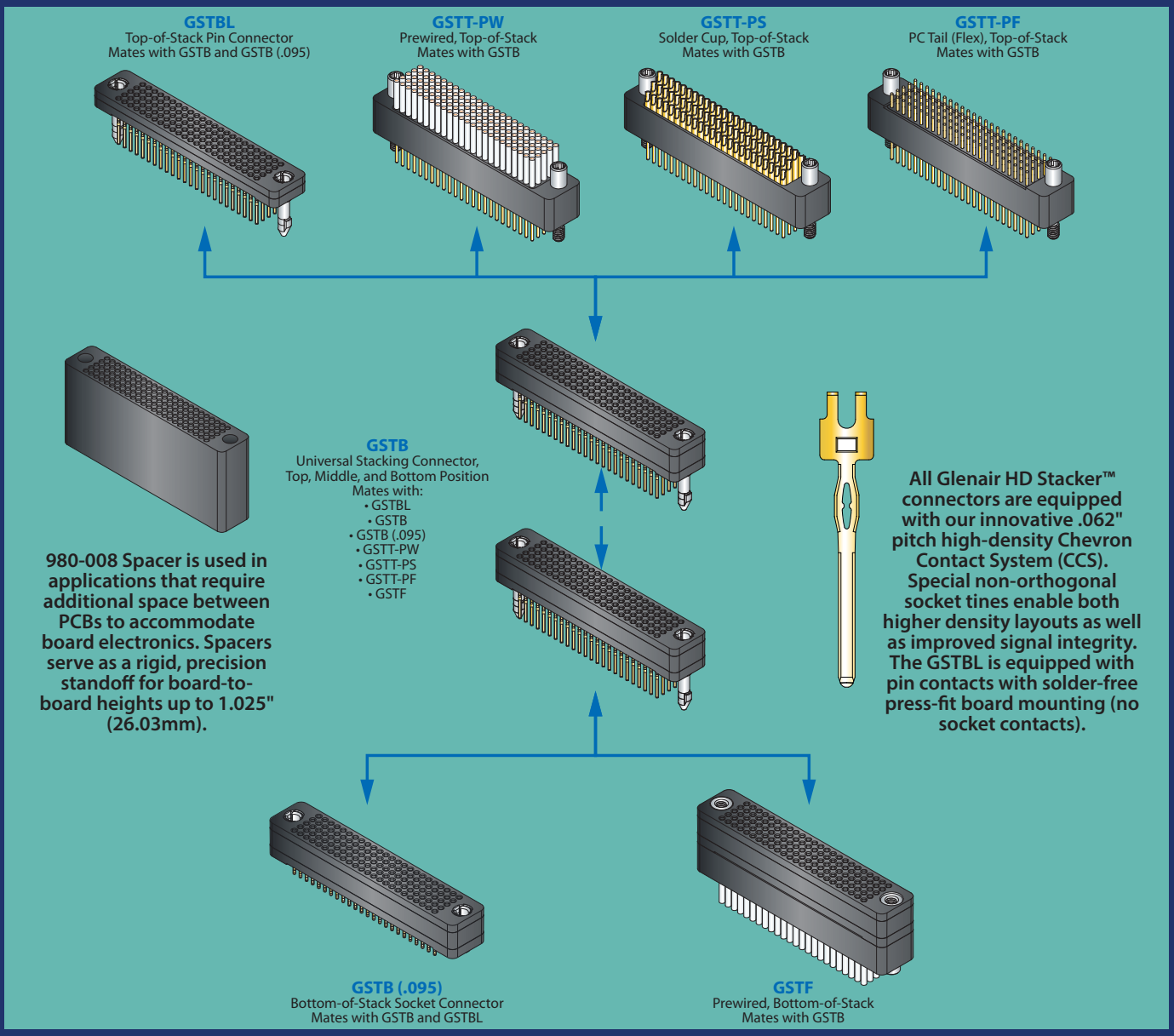
Polarized shells and keyed guide pin hardware prevent mis-mating

- **High-density .0625" pitch Chevron Contact System: 55% more contacts per connector size**
- **PCIe 3.0 capable**
- **Performance up to 10.5 Gbps**
- **Polarized insulator and hardware options**
- **Solder free "eye of the needle" compliant tail for press fit installation**
- **High-temp PPS insulator meets NASA outgassing requirements**
- **Available wired / flex jumpers**
- **Available between-board spacers up to 1 inch**

HIGH-DENSITY
HD Stacker™

Rugged, solder-free compliant pin board-to-board stackable connectors

HD STACKER™ POSITION AND MATING COMPATIBILITY GUIDE



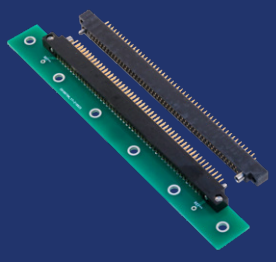
QUALIFICATION TESTING

IAW MIL-DTL-55302G:

- Contact engagement/ separation
- Contact retention
- DWV
- Electrical resistance
- Mechanical vibration and shock
- Insulation resistance
- Thermal shock
- Contact resistance
- Humidity

High-frequency electrical performance tests were performed for: Insertion loss, return loss, crosstalk, and time domain performance metrics including impedance and eye pattern.

ALSO AVAILABLE: MIL-DTL-55302



Standard-density I/O-to-board and board-mount rectangular connectors for mission-critical aerospace applications. Contacts set on two rows with .100" centers.

OPTIMIZED
FOR USE WITH
MIL-STAR™
HIGH-PERFORMANCE HOOKUP WIRE AND CABLE

HDRM
HOLD DOWN
RELEASE MECHANISM™

Hold Down and Release Mechanisms: non-pyrotechnic US- and EU-made IAW local standards and market requirements

Artist concept of NASA's Juno spacecraft, exploring Jupiter
NASA/JPL-Caltech

High-reliability, non-explosive (split-spool) HDRMs, separation nuts, and pin pullers/pushers for dependable preload retention and release of deployable space systems

Glenair pyrotechnic-free release mechanisms offer quick release time, low shock, relatively low power input, and virtually no temperature sensitivity. HDRM Series includes separation nuts, pin pushers, and pin pullers—direct wired or connectorized—with a broad range of preload carrying capacity. HDRM EU Series designed for ESA applications and standards.

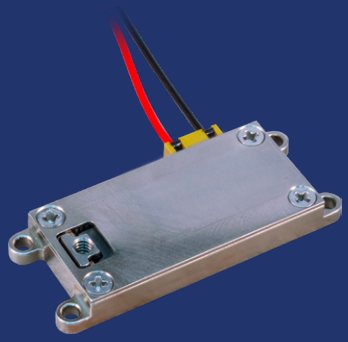
- **Pyrotechnic-free alternative (low-shock fuse-wire) for single-event release of deployable space systems—5 Amp nominal electrical initiation**
- **Single-event device, user-serviceable and refurbishable**
- **Redundant or non-redundant actuation circuit**
- **Not susceptible to transient and noise (EMI/EMP/ESD/RFI) inputs**
- **Extended temperature ranges: -150°C to +150°C**

NON-PYROTECHNIC

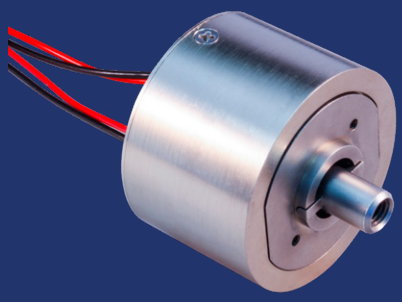
Hold Down and Release Mechanisms

Separation nut, pin puller, and pin pusher configurations with flight heritage

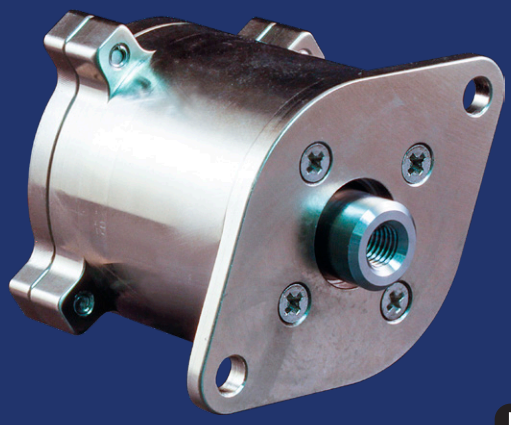
HDRM DUTY CLASSES



Light-Duty HDRM
Redundant circuit,
5 – 75 lb release preload



Medium-Duty HDRM
Redundant circuit,
300 – 4000 lb release preload

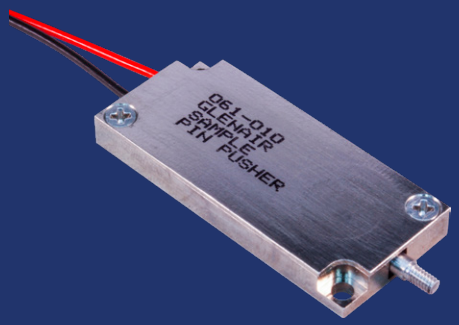


Heavy-Duty HDRM
Redundant circuit,
5000 – 20,000 lb release preload

HDRM RELEASE TYPES

Separation nut

Pin puller



Pin pusher

EUROPEAN-MADE HDRM SOLUTIONS IAW ECSS-E-ST-33-01C SPACE MECHANISM STANDARD

HDRM
HOLD DOWN
RELEASE MECHANISM
EU Series™

Medium-Duty HDRM
Redundant circuit,
1.5 kN release preload

Medium-Duty HDRM
Redundant circuit,
11 kN release preload

Medium-Duty HDRM
Redundant circuit,
18 kN release preload

H I J K L M N O P Q R S T U V W X Y Z

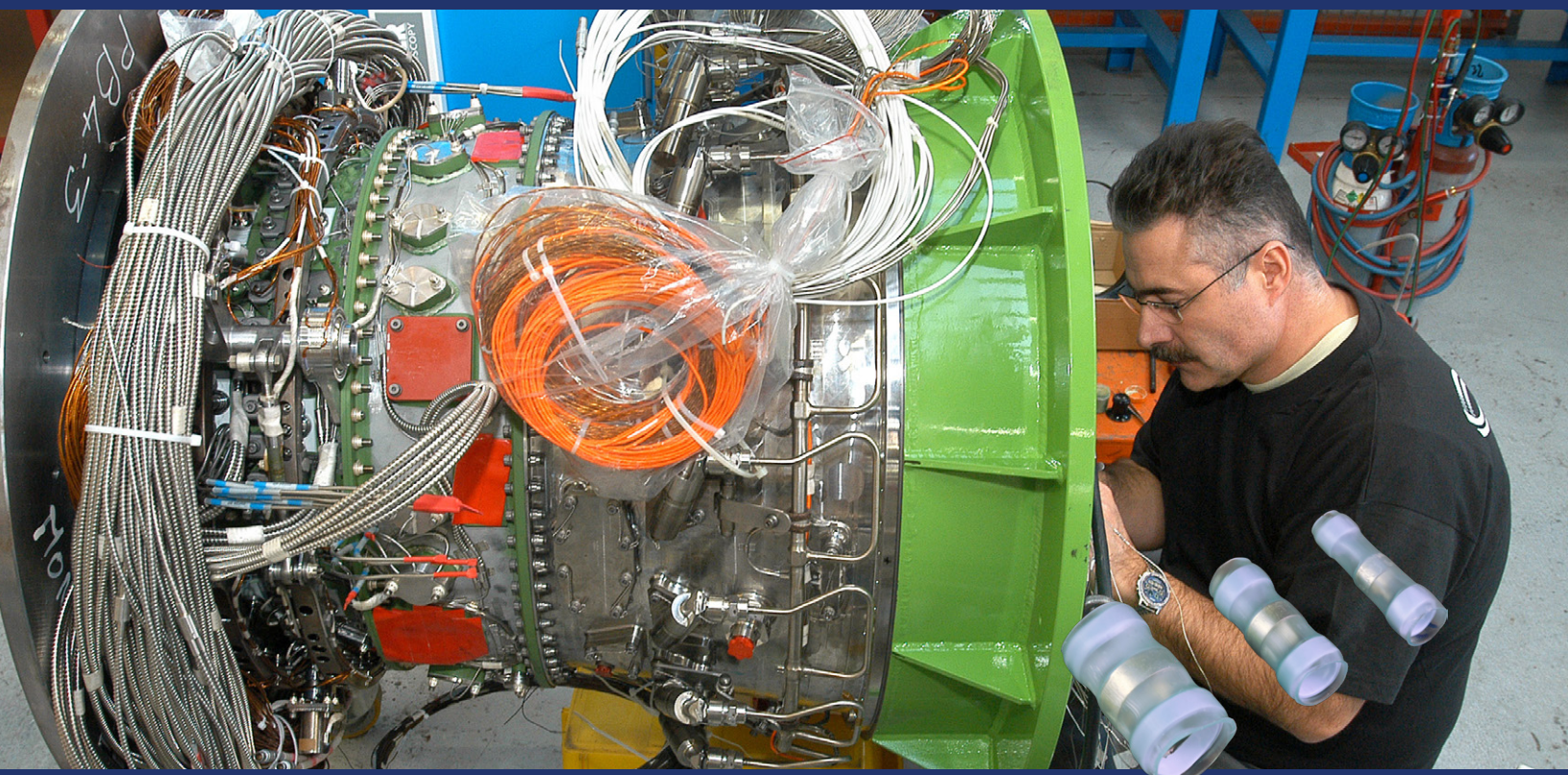
A GLENAIR SIGNATURE

High-Rel Cable Assembly

CRITICAL COMPONENT

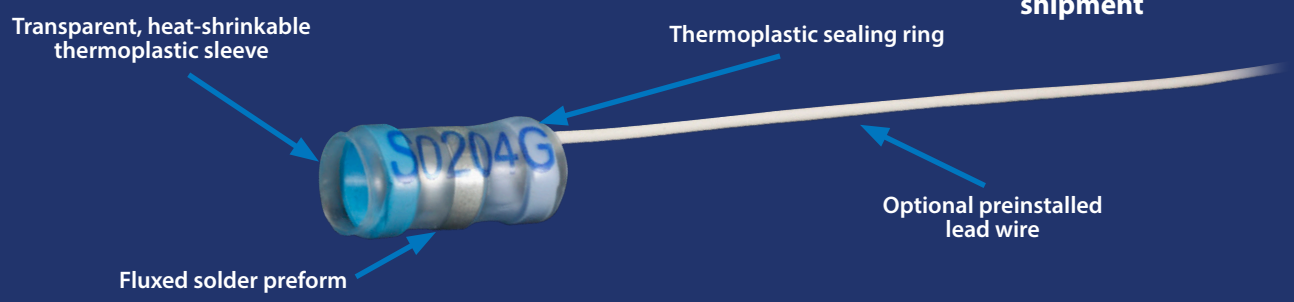
HST Heat Shrink Termination

Heat Shrink Termination Sleeves AS83519 type plus Glenair ArmorLite™ configurations



Reliable termination of EMI/RFI shielding (to ground) in wire harness applications is universally accomplished with AS83519/1 and /2 type heat shrink termination (HST) sleeves. These devices, supplied in five different sizes—with or without pre-installed ground lead wires—provide environmental encapsulation and insulation of the shield termination site. Lead-wire-equipped versions allow for easy and reliable grounding to connector shells, backshells, or ground posts. Transparent heat shrink tubing allows for easy inspection and supplies additional strength and strain-relief. The preflux solder preform delivers a fast and controlled solder joint each and every time. For weight saving applications, select Glenair signature series HSTs with lightweight ArmorLite braided lead wires.

- **Heat shrink termination sleeves, with and without lead wire**
- **Ultra-fast recovery for reduced assembly time**
- **Pre-installed, pre-tinned braid version available**
- **Mil-qualified 81824/1 in-line-splices**
- **High availability: all Glenair HSTs made in USA and in-stock for immediate, same day shipment**

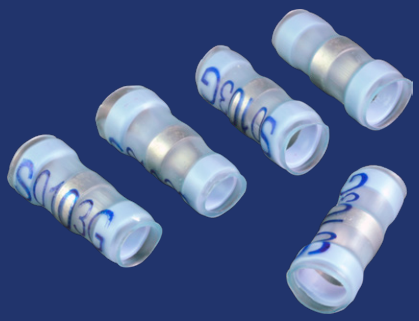


AS83519/1 AND /2 TYPE

Heat Shrink Termination (HST) Sleeves

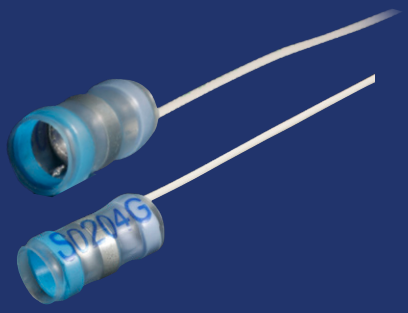
For fast and reliable termination of EMI cable shielding to ground
Lightweight ArmorLite™ configurations available

AS83519/1 TYPE HEAT SHRINK TERMINATION (HST) SLEEVES, NO LEAD WIRE



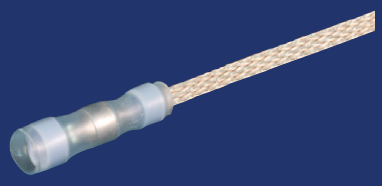
Designed to meet SAE AS83519 performance requirements, Glenair Heat Shrink Termination (HST) shield-to-ground termination sleeves are fabricated from transparent cross-linked polyvinylidene fluoride tubing to deliver optimal environmental shield termination in aerospace and defense applications. Each HST device is equipped with a pre-fluxed solder preform and thermally stabilized thermoplastic sealing rings that encapsulate and protect the shield-to-ground termination. Glenair HST devices are tested to perform from -55°C to 125°C IAW SAE AS83519.

AS83519/2 TYPE HEAT SHRINK TERMINATION (HST) SLEEVES, PRE-INSTALLED LEAD WIRE



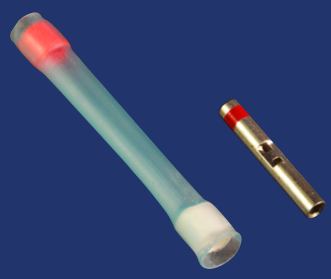
Designed to meet SAE AS83519 performance requirements, Glenair Heat Shrink Termination (HST) shield to ground termination sleeves with pre-installed shield ground wire are fabricated from transparent cross-linked polyvinylidene fluoride tubing to deliver optimal environmental shield termination in aerospace and defense applications. Each HST device is equipped with a pre-fluxed solder preform and thermally-stabilized thermoplastic sealing rings that encapsulate and protect the shield-to-ground termination. Glenair HST devices are tested to perform from -55°C to 125°C IAW SAE AS83519. Pre-installed shield ground wire facilitates easy grounding.

AS83519/2 TYPE HEAT SHRINK TERMINATION (HST) SLEEVES, PRE-INSTALLED BRAID, PRE-TINNED ON BOTH ENDS



Designed to meet SAE AS83519 performance requirements, Glenair Heat Shrink Termination (HST) shield to ground termination sleeves with pre-installed wire are fabricated from transparent cross-linked polyvinylidene fluoride tubing to deliver optimal environmental shield termination in aerospace and defense applications. Each HST device is equipped with a pre-fluxed solder preform and thermally-stabilized thermoplastic sealing rings that encapsulate and protect the shield-to-ground termination. Glenair HST devices are tested to perform from -55°C to 125°C IAW SAE AS83519. Contact the factory for alternative ground lead materials including lightweight AmberStrand and ArmorLite.

MIL-QUALIFIED IN-LINE SPLICE

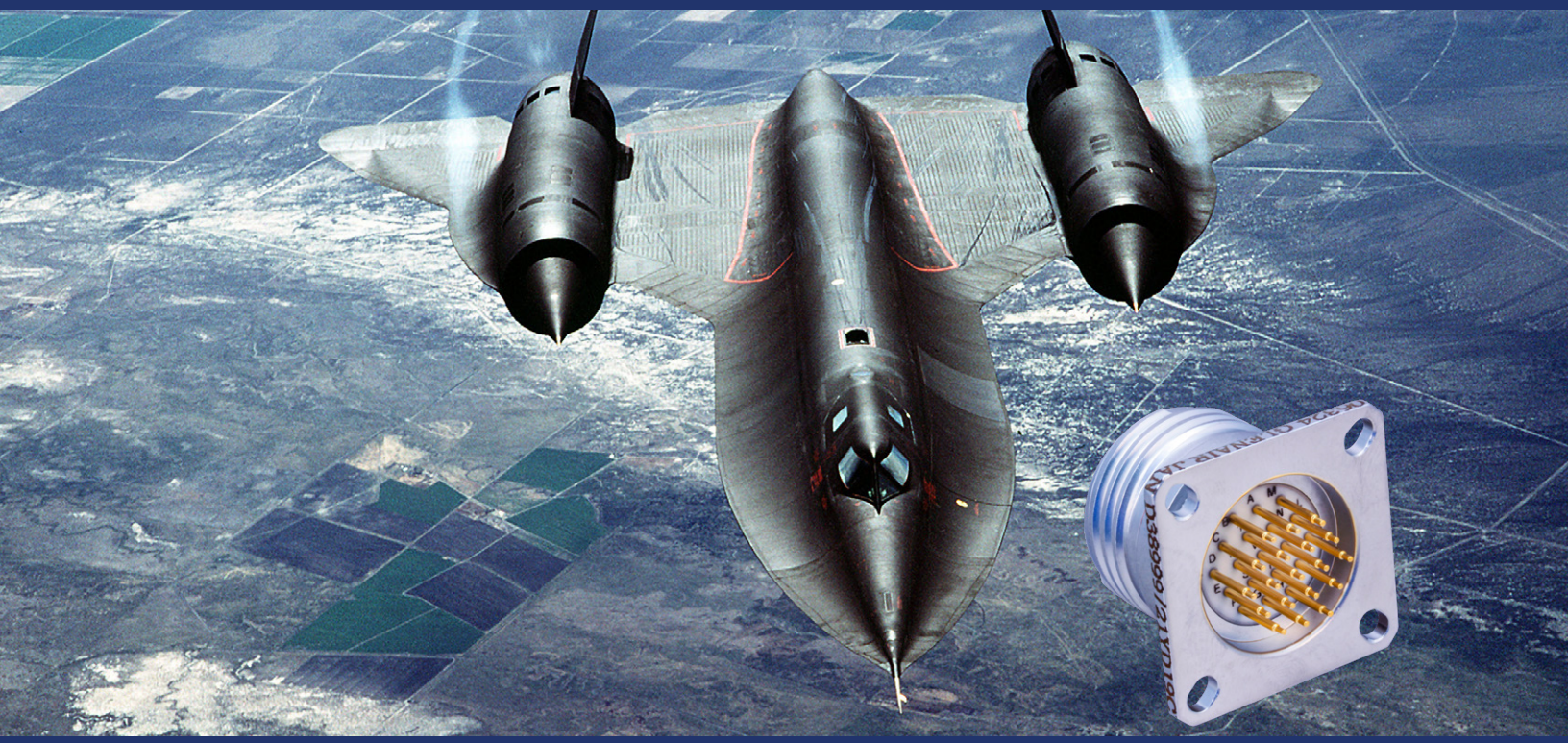


Engineered to meet stringent MIL-DTL-81824/1 performance standards, Glenair M81824/1 type in-line splices deliver consistent electrical integrity and long-term environmental sealing under extreme conditions. The compact, single-piece design integrates a pre-installed solder sleeve, flux, and sealing rings to ensure fast, repeatable installation with minimal tooling. Ideal for use in sealed harness assemblies, M81824/1 splices are vibration-resistant, moisture-proof, and compatible with standard AS22759 wire types.

OPTIMIZED
FOR USE WITH
MIL•STAR™
HIGH-PERFORMANCE HOOKUP WIRE AND CABLE

GLASS-SEALED
Hermetic
CONNECTORS

Mil-qualified and Glenair signature hermetic-class connectors



Resolve gas, moisture, and particle ingress problems with conventional glass-sealed hermetic or advanced CODE RED lightweight encapsulant-sealed designs.

ALL SOLUTIONS DELIVER

- Superior pressure resistance to 32,000+ psi
- Higher resistance to extreme operating temperatures to 260°+ C
- Superior mechanical strength
- No material breakdown or aging over time
- Helium leak rate <1X10^{-7} cc/sec to 1X10^{-10}

WORLDWIDE GLASS-SEALED HERMETIC CAPABILITIES

Glenair operates two fully-redundant glass-to-metal seal hermetic interconnect operations in its world-class factories located in Northern Italy and Southern California

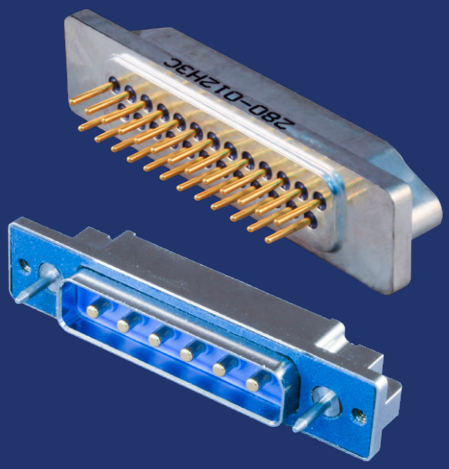
AEROSPACE-GRADE

Hermetic Connectors Glass-to-Metal Seal Type

Receptacles · bulkhead feed-thrus · Sav-Con® adapters

UNIQUE HERMETIC OFFERINGS AND CATALOG (COTS) SOLUTIONS

Coax, Triax, Quadrax and hybrid-contact layouts

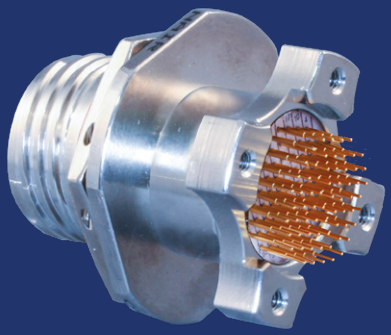


Rectangular hermetics including Series 28 HiPer-D and Series 79

El Ochito high-speed octaxial contacts in a lightweight CODE-RED sealed bulkhead feed-thru

Triax hermetic

Hermetic Sav-Con feed-thrus and gender changers



Dual-flange PC tail hermetic

Hermetic with crimp-removable contacts

Hermetic bulkhead penetrators

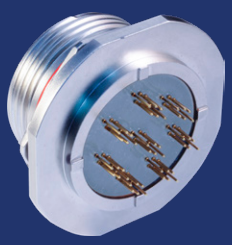
Hermetic receptacles with integrated band porch

OPTIMIZED FOR USE WITH MIL-STAR™ HIGH-PERFORMANCE HOOKUP WIRE AND CABLE

GLASS-SEALED Hermetic CONNECTORS

Hermetic connectors in lightweight, low-electrical-resistance packaging with 1X10^{-7} leak-rate performance

Hermetically-sealed interconnects used in vacuum or high-altitude applications prevent moisture and other contaminants from damaging sensitive electronic equipment. Glass-to-metal hermetic sealing has been the gold standard in the aerospace and petrochemical industries for decades due to the strength and long-term durability of the materials used. But glass-to-metal seal hermetics come with a big price tag in both weight and electrical resistance. CODE RED is an innovative sealing encapsulant and application process invented by Glenair that provides durable hermetic sealing in a lightweight aluminum package. CODE RED allows for the use of gold-plated copper alloy contacts, significantly improving electrical performance. CODE RED hermetic connectors are available in SuperNine® (D38999 Series III type metal and composite), Mighty Mouse, M24308 D-Sub, HiPer-D, and Series 79; and deliver reliable, life-of-system 1X10^{-7} max leak-rate hermetic sealing. Special non-magnetic (zero residual magnetism) versions are also available, consult factory.



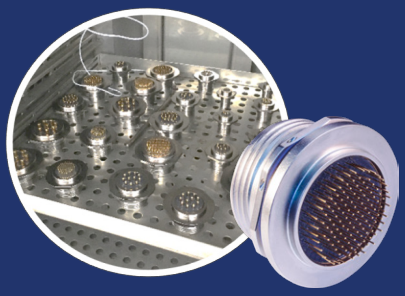
- **1X10^{-7} hermetic sealing in a lightweight aluminum shell**
- **Low-resistance gold-plated copper contacts**
- **Passed full D38999/23 qualification testing**
- **Meets NASA outgassing and aerospace temperature/corrosion resistance standards**
- **Operating temperature -65°C to +200°C**
- **Up to +50% weight savings**
- **Improved current carrying capacity and electrical resistance compared to Kovar/ Inconel solutions**

CODE RED

Hermetic Connectors Encapsulant-to-Metal Seal Type

Lightweight, low-resistance hermetic sealing solution

CODE RED LIGHTWEIGHT HERMETIC CONNECTOR TESTING AND VALIDATION



Connectors utilizing CODE RED hermetic encapsulant sealing underwent a grueling qualification test and validation process to prove material durability and hermeticity. Validation testing including 100 cycles of thermal shock IAW EIA-364-32 Test Condition A -65°C to +200°C while maintaining hermeticity followed by 1000 hours of thermal aging at 200°C. Additional tests included:

- DWV, DWV at altitude
- IR, IR at temperature
- Highly Accelerated Life Testing (HALT)
- Insert and contact retention
- Mating durability
- Random vibration at temperature IAW MIL-DTL-38999
- Hermetic seal at 1 atm differential pressure

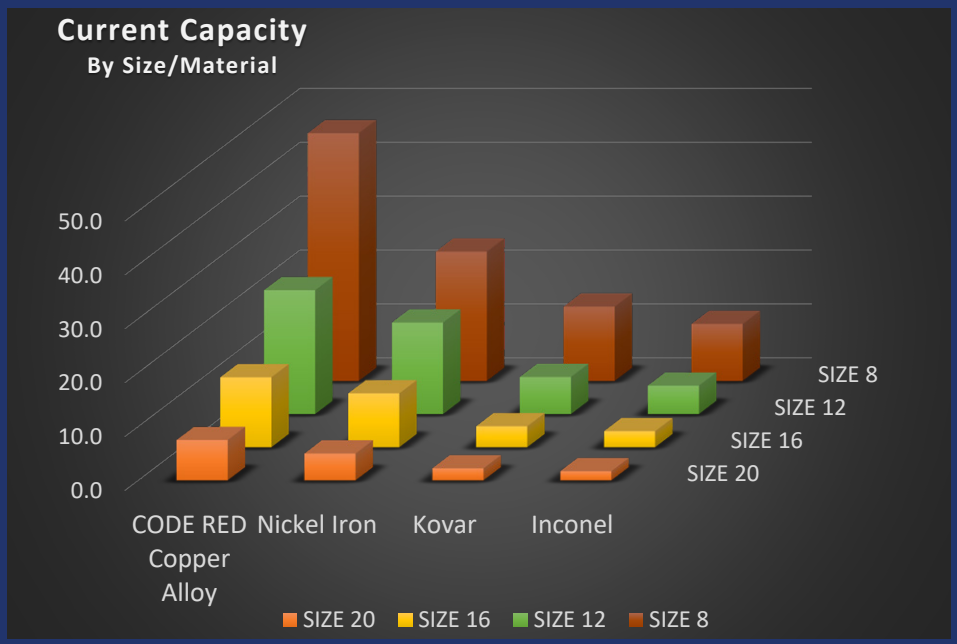
The entire qualification test cycle was repeated successfully with new parts to validate complete reliability.

CODE RED USES PROVEN-PERFORMANCE CONNECTOR AND CONTACT MATERIALS

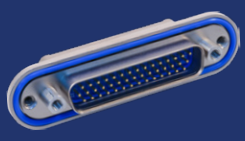
CODE RED MATERIALS / FINISH	
Sealing Adhesive	Proprietary Glenair compounds
Contacts*	Gold-plated beryllium copper alloy
Insulator	Rigid high-temp plastic
Seals	Blended fluorosilicone/ silicone elastomer
Receptacle Shell and Jam Nut*	Aluminum alloy
Finish*	Multiple mil-spec finishes
*zero residual magnetism materials also available	

PERCENTAGE WEIGHT SAVINGS CODE RED VS. GLASS-TO-METAL MIL-DTL-38999 SR. III	
Shell Size/Insert Arr.	Weight Reduction
9-35	52%
11-98	47%
13-35	47%
15-97	42%
19-32	40%
21-11	32%
23-21	28%
25-08	43%

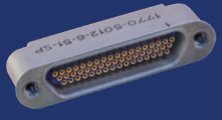
Graph illustrates Current Carrying Capacity of CODE RED copper alloy contacts compared to the Inconel, Kovar, and nickel iron contacts used in conventional glass-to-metal seal hermetics.



AVAILABLE CONNECTOR PACKAGES



HiPer-D advanced-performance D-Sub



Micro-D M83513-intermateable

Series 79 crimp-contact micro

Sr. 806 Mil-Aero micro miniature

SuperNine "better-than-QPL" D38999

RF and high-speed

H I J K L M N O P Q R S T U V W X Y Z

OPTIMIZED
FOR USE WITH
MIL•STAR™
HIGH-PERFORMANCE HOOKUP WIRE AND CABLE

GLASS-SEALED
Hermetic
CONNECTORS

High-Pressure / High-Temperature (HPHT) Glass-Sealed Feedthrus and Penetrators

Glass sealed penetrators and feedthroughs provide high-pressure sealed interconnect interfaces for downhole drilling and logging instruments used in LWD and MWD applications. Supplied in various formats including multi-conductor feedthrus, penetrators, and single-pin designs for temperatures approaching 300°C (570°F) under conditions of elevated shock and vibration. HTHP connectors utilize environmentally-resistant materials including Inconel and stainless steel shells and glass hermetic inserts. Standard terminations include wire leads, solder cups, and PC tails.

- **Available in 7 shell sizes and 17 insert arrangements**
- **Standard penetrators with hermeticity of <1 X 10^{-7} sccHe/sec @ 1 atmosphere differential and rated to 10,000 psi**
- **High-pressure penetrators rated to 25,000 psi and hermeticity of <1 X 10^{-8} sccHe/sec @ 1 atmosphere differential**
- **Available in unidirectional and bidirectional pressures**
- **Solder cup, line, and PCB terminations**

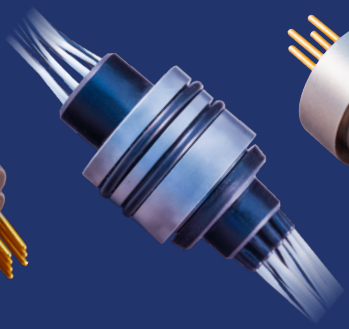
DOWNHOLE

High-Pressure / High-Temperature (HPHT) Hermetic Connectors

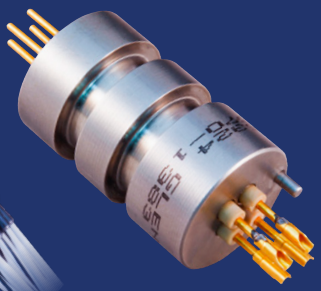
For use in LWD and MWD applications

AVAILABLE CONFIGURATIONS

High temperature/high pressure glass-sealed feedthrough



High temperature/high pressure glass-sealed feedthrough



4 pin high temperature/ high pressure glass-sealed feedthrough

Single pin glass-sealed hermetic feedthroughs

HTHP environmental boot assembly

INSERT ARRANGEMENTS AND PERFORMANCE SPECIFICATIONS

All high-density signal and standard-density power contact arrangements are available across the complete range of connector styles (CCP, FCR, and BCR). High-speed Ethernet inserts as well as Pressure Balanced Oil Filled (PBOF) configurations and a purpose-designed family of pressure caps, accessories and backshells are also available.

HTHP bulkhead connector receptacles (BCR) and flange connector receptacles (FCR) are equipped with high-pressure glass-to-metal sealed inserts with solder contact wire termination and 10K psi open-face rating. Cable connector plugs (CCP) utilize environmental O-ring sealed inserts and are rated to 10K psi in the mated condition.

CONTACT ARRANGEMENT TABLE

Shell Size	Contact Size			
	#22	#20	#16	Hybrid
G	10	8		
K	19	14	4	One 75 Ohm Coax • Six #22
L			9	
M	37	26	12	
O	61	44	19	6 #16, 9 #20, 29 #22
Q	109		30	
R	129			

CURRENT RATING (AMPS)		
3	5	10

HTHP PERFORMANCE SPECIFICATIONS

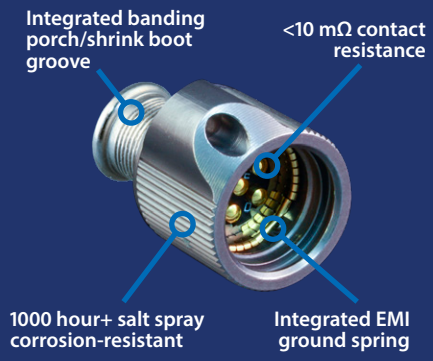
Pressure Rating	Plug: 10,000 psi, mated condition Receptacles: 10,000 psi mated and open face	per ISO 13628-6
Electrical	600 V typical 5 GOhm insulation resistance at 500 VDC DWV test voltage 1275 VAC / 1800 VDC	per MIL-STD-202, Method 301 per MIL-STD-202, Method 302
Materials	Salt Spray (corrosion) Humidity (steady state) Thermal Cycle	MIL-STD-202, Method 101 MIL-STD-202, Method 103 ISO 13628-6

OPTIMIZED
FOR USE WITH
MIL-STAR™
HIGH-PERFORMANCE HOOKUP WIRE AND CABLE

HiPer 55116

QPL and high-performance MCOTS 55116 audio / radio connector technology

Series 152 HiPer 55116 connectors offer significant performance advantages for modern soldier communication systems



Fully intermateable and interoperable with MIL-DTL-55116 connectors

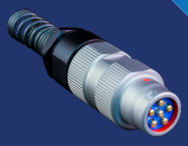
- **Intermateable and interoperable with standard MIL-DTL-55116 connectors**
- **Low contact resistance: Less than 10 milliohms**
- **Integrated EMI ground spring provides improved 2.5 milliohm shell-to-shell conductivity performance**
- **IP68 rated sealing in mated and unmated condition, prevents water ingress into radio equipment**
- **1,000 hour+ salt spray corrosion resistance**
- **Integrated cable shield termination band porch**
- **Superior 100 pound cable pull test rating**

GLENAIR DLA QUALIFIED SERIES 151 STANDARD MIL-DTL-55116 AUDIO CONNECTORS

151-001 MIL-DTL-55116 QPL
audio plug with wire strain relief

151-002 MIL-DTL-55116 QPL
audio plug/overmold adapter

151-003 MIL-DTL-55116 QPL
radio-mount jam nut receptacle



151-004 MIL-DTL-55116 QPL
in-line receptacle, strain relief

SERIES 152 INTERMATEABLE

HiPer 55116 Radio Connectors and Cables

Superior environmental, EMC, and durability performance

SERIES 152 HIPER 55116 CONNECTOR SELECTION GUIDE

Audio plug, field serviceable, with wire strain relief and rigid contacts, crimp and solder cup

Overmolded audio plug cordset with wire strain relief

Audio plug with shield termination porch, overmolding adapter and rigid contacts, crimp and solder cup

Overmolded audio plug cordset

In-line receptacle with shield termination porch, overmolding adapter, and non-rigid spring contacts, crimp and solder cup

Overmolded in-line audio receptacle cordset

Radio-mount jam nut audio receptacle with non-rigid spring contacts or PC tails and optional ground pins

Filtered radio-mount jam nut audio receptacle with non-rigid spring contacts, solder cup, or PC tails

Special adapter configurations and protective covers

H I J K L M N O P Q R S T U V W X Y Z

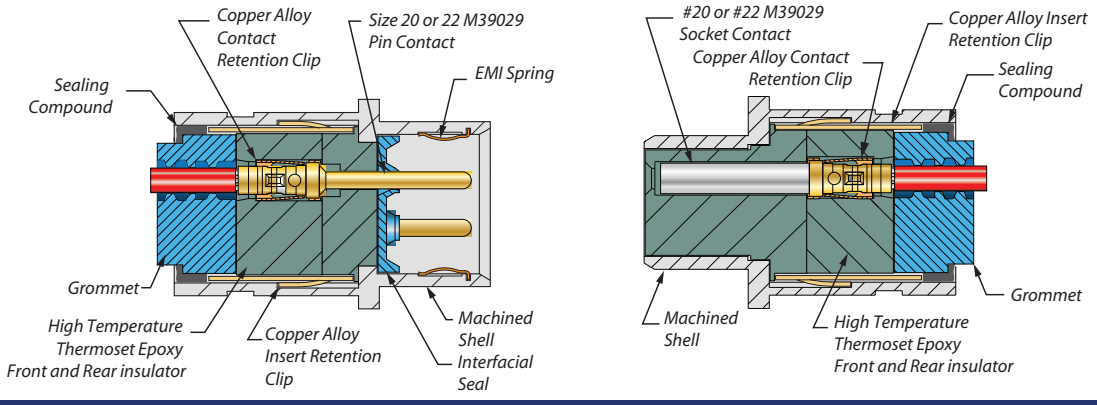
OPTIMIZED
FOR USE WITH
MIL-STAR™
HIGH-PERFORMANCE HOOKUP WIRE AND CABLE

HiPer-D "Better-than-QPL" M24308 intermateable aerospace-grade connectors

HiPer-D: the advanced-performance M24308 intermateable with one-piece precision-machined shells and enhanced shielding, sealing, and high temperature and vibration tolerance

- **Advanced temperature, vibration, and EMC/ electrical performance**
- **11 standard and 20 combo insert arrangements**
- **High temperature epoxy insulators**
- **Watertight sealing**
- **Rugged machined one-piece shell**

STANDARD AND HIGH DENSITY HIPER-D® - CUTAWAY

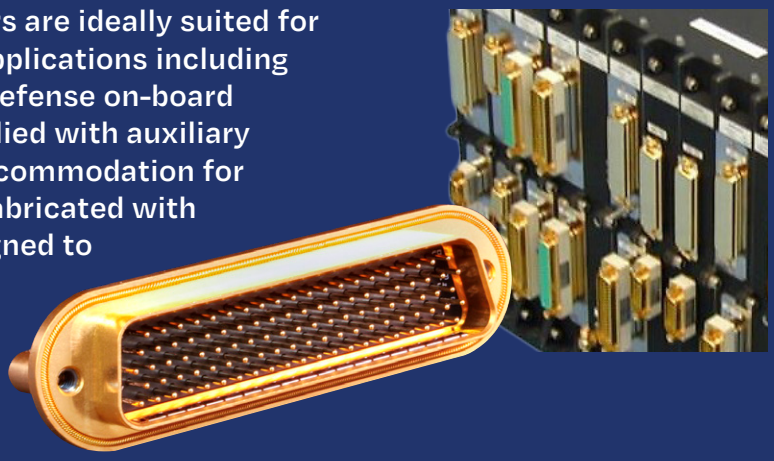


SERIES 28

HiPer-D Aerospace-Grade M24308 Connectors

Precision-machined · shielded · sealed · fully-shrouded backshells

Glenair HiPer-D M24308 D-sub connectors are ideally suited for both high-altitude and exoatmospheric applications including jet aircraft avionic systems and military defense on-board satellite computers. Connectors are supplied with auxiliary grounding fingers, fully-sealed inserts, accommodation for precision-machined backshells, and are fabricated with materials and production processes designed to eliminate the broad range of electrical, mechanical, and environmental failure modes endemic in stamped-and-formed connector packaging.



HIPER-D HIGH-PERFORMANCE D-SUB VS. MIL-STD-24308		
Specification / Feature	**M24308**	**HiPer-D**
Temperature	-55°C to +125°C	-65°C to +200°C
Insulator	Thermoplastic	Thermoset Epoxy
Shell	Steel (Brass)	Aluminum (SST)
Voltage	1000 VAC	1000 VAC
Grounding	Dimples in shell (not in Mil-Spec)	Nickel-plated Copper Alloy EMI spring
Environmental	No	Yes
Vibration, sine	20 g	60 g
Vibration, random	N/A	43 g
Shock	50 g	300 g
Bolt-on backshells	No	Yes

HIPER-D M24308 COMBO-DS FOR POWER, SIGNAL, AND RF APPLICATIONS

- **Size #8 power and 50 ohm or 75 ohm RF contacts**
- **Mixed layouts with #8's and #20's**
- **200°C continuous operating temperature**
- **20 tooled layouts**
- **Crimp and PC tail terminations**

HIGH-SPEED HIPER-D HIGH-PERFORMANCE M24308

Crimp contact non-environmental connectors with #8 contacts for high-speed data transmission

- **One-piece rugged machined aluminum shell**
- **Two to five size 8 Coax, Twinax, or Quadrax contacts**
- **Common ground plane (no insulators)**
- **Available in straight and right angle PCB versions**
- **Non scoop-proof solution. For scoop-proof rectangular connector requirements, see Series 792.**

OPTIMIZED
FOR USE WITH
turboflex
THE ULTRA FLEXIBLE RUGGED POWER CABLE

HMI 928 series quarter-turn bayonet-lock connectors for head-to-ballast lighting

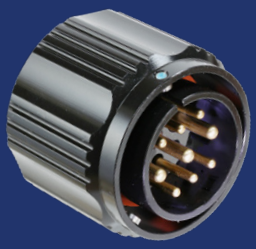
Theatrical lighting demands reliable, built-to-last connectors and cables. Glenair Series 928 quarter-turn bayonet connectors meet demanding European "VG" standards for performance, durability, and ruggedness. Available in all standard lighting industry configurations, these connectors feature electrocoated aluminum housings, neoprene inserts, and machined copper alloy contacts.

- **Nine industry-standard contact arrangements for use on Arri, DeSisti, Cinemills, Filmgear, Mole-Richardson, and other HMI lighting solutions**
- **Rugged shells and couplings resist handling damage**
- **Fluted and/or rubber-coated coupling nuts facilitate easy mate and demate**

SERIES 928 HMI CONNECTOR SELECTION GUIDE

HMI
Line Receptacle

HMI
Panel Receptacle



HMI Line Plug,
Heavy-Duty Coupling Ring

HMI Line Plug,
RadGrip Coupling Ring

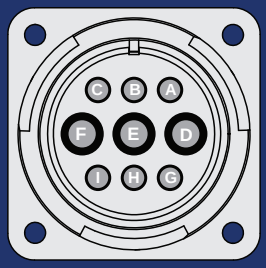
HMI
Panel Plug

SERIES 928

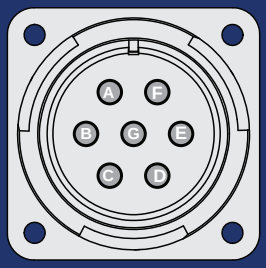
HMI Lighting Connectors

Available industry-standard insert arrangements

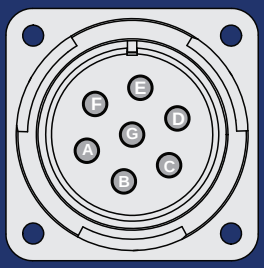
14S-07
Interchangeable, intermateable with Veam 14SA7
(7) size #16 contacts
This connector is used on:
Arri 200W
Mole-Richardson 200W and 800W
K5600 Jokerbug 200W, 400W, and 800W.



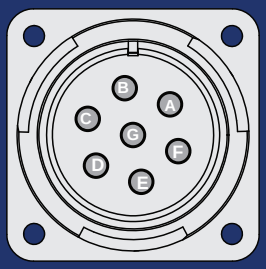
24-11
(3) size #8 contacts, (6) #12 contacts
This connector is used on:
DeSisti 4KW (blue)



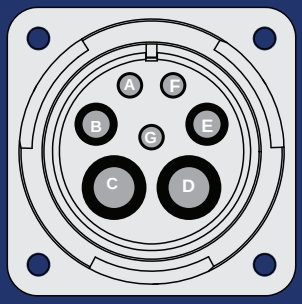
24-2
(7) size #12 contacts
This connector is used on:
Arri 2.5 KW, 4KW
DeSisti 2.5KW (red)
Cinemills 2.5KW, 4KW
Filmgear 2.5KW, 4KW
Mole-Richardson 2.5KW, 4KW



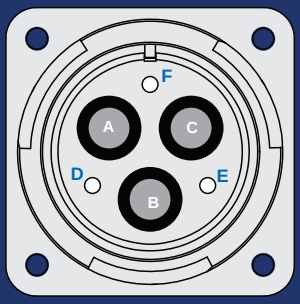
24-2W
(7) size #12 contacts
This connector is used on:
Arri 575W, 1200W, 1800W
DeSisti 1200W (yellow)
Cinemills 575W, 1200W, 1800W
Filmgear 575W, 1200W
Mole-Richardson 1200W



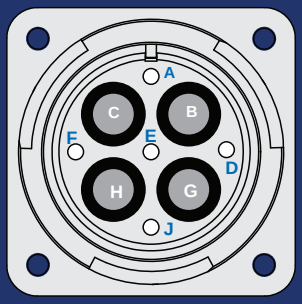
24-2Z
(7) size #12 contacts
This connector is used on:
DeSisti 575W (green)



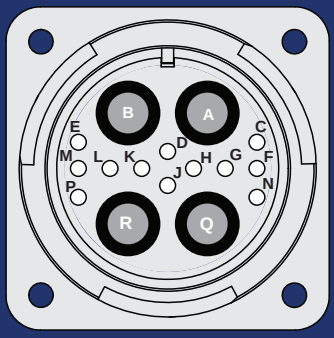
28-10
(3) #12 contacts, (2) #8 contacts, (2) #4 contacts
This connector is used on:
Cinemills 12KW, 18KW, 24KW
Filmgear 24KW
Mole-Richardson 12KW, 18KW, 24KW



28-22
(3) #16 contacts, (3) #4 contacts
This connector is used on:
Arri 6KW, 9KW
Filmgear 6KW



28-09
(5) #16 contacts, (4) #4 contacts
This connector is used on:
Arri 12KW, 18KW
Filmgear 12KW, 18KW

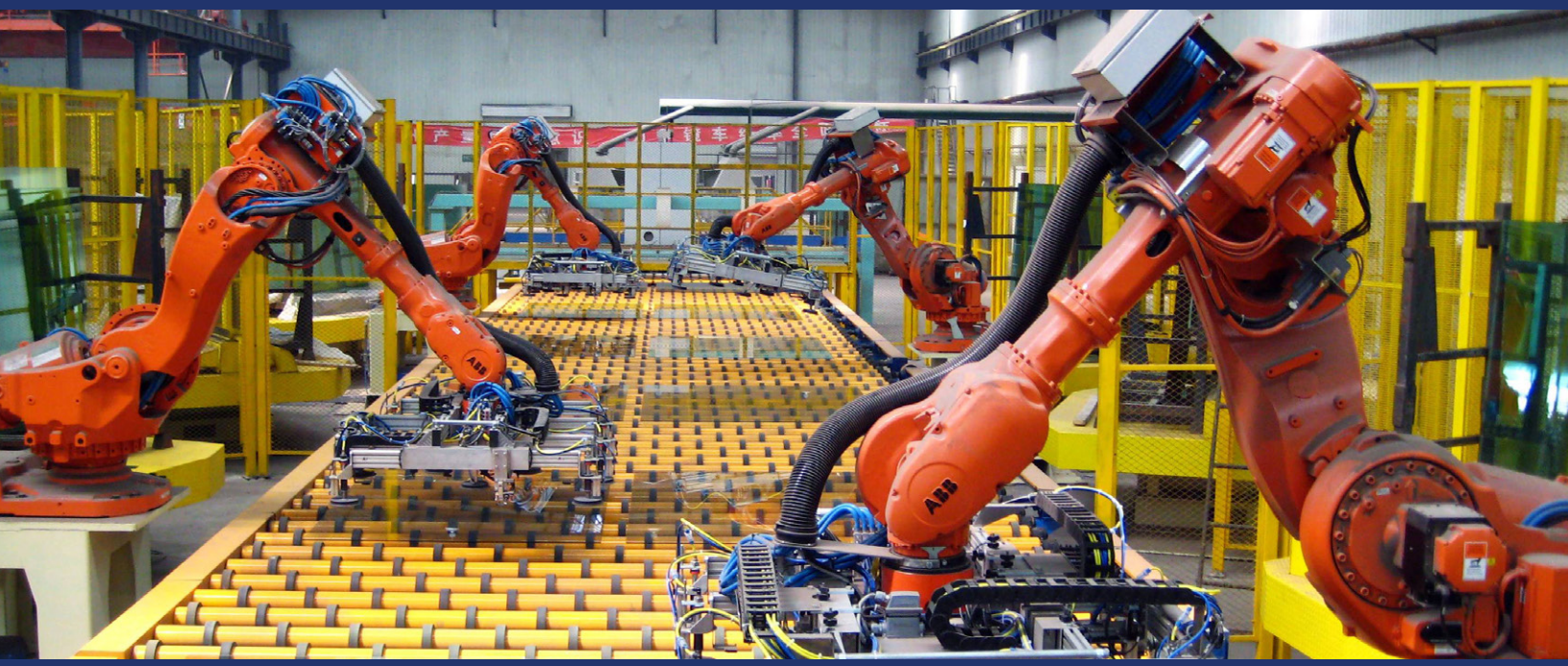


32-68
(12) #16 contacts, (4) #4 contacts
This connector is used on:
DeSisti 6KW (white), 12KW (pink), 18KW (orange)
Mole-Richardson 6KW

Mating face of socket connector. Pin connector identification is reversed.

OPTIMIZED
FOR USE WITH
turboflex
THE ULTRA FLEXIBLE RUGGED POWER CABLE

IPT and IPT SE Series: rugged bayonet connector series resistant to vibration, shock, and environmental damage



Series IPT and IPT SE are industry-standard solder contact and crimp contact multipin circulars IAW MIL-DTL-26482. Designed for use in both military and industrial applications that depend on a quick-mating and demating bayonet connector with a broad range of power and signal contact arrangements.

The Glenair Series IPT SE bayonet-lock connector is designed for all general and environmental applications that require a high-performance military-type cylindrical connector with support for crimp-removable contacts, standard wire gages, and tools. Qualified to VG95328, the bayonet mechanism provides fast and easy coupling, especially when the connector is situated in an awkward or hard-to-reach location.

The Series IPT SE Connector is interchangeable and intermateable with the wide range of industry-standard bayonet connectors designed around MIL-DTL-26482 Series I and/or qualified to VG 95328, including ITT Cannon KPT.

Wide range of straight and 90° backshells available for ease of cable routing

AVAILABLE CONFIGURATIONS

VG95328 bayonet-lock
IAW MIL-DTL-26482

Series IPT-SE crimp-contact
in accordance with MIL-DTL-26482

Series IPT solder contact
in accordance with MIL-DTL-26482

STANDARD BAYONET

IPT Series and IPT SE

Rugged, industry-standard multipin power and signal connectors

Glenair IPT and IPT SE series connectors offer rugged, high vibration performance and rapid mating for both high-performance and general duty signal connector applications. The products are environmentally sealed and can be equipped with EMI/RFI shield termination backshell accessories. IPT SE is qualified to VG 95328. Both product series are in accordance with MIL-DTL-26482 Series I.

IPT-SE AND IPT PRODUCT FEATURES AND SPECIFICATIONS	
Feature	**Description**
Applications	Factory equipment, o-road vehicles, military vehicles, sensors, power generators, and other industrial applications.
Shell Construction	Aluminum shell bodies provide durable performance in a lightweight package.
Mating System	Three pin bayonet system, 1/2 turn to full mate.
Shell Surface Coatings	A range of conductive and non-conductive surface coatings including standard Cadmium finishes as well as RoHS compliant elecrostatic paint.
Environmental Sealing	Individual wire sealing grommets and optional environmental backshells provide moisture protection up to IP67.
Temperature Tolerance	F6, F7, F11, and G3 plated connectors are tested to -55°C to 125°C.
Contacts	High performance crimp contacts and retention clips (IPT SE) and general duty crimp and solder contacts (IPT).
Contact Plating	Copper alloy with gold plating.
Wire Gauge	Contacts support wire sizes #12 - #14 (Size 12), #16 - #20 gauge (Size 16) and #20 - #24 (size 20).
Insert Materials	Resilient high-insulation synthetic insert (polychloroprene or silicone). IPT SE version includes hard plastic retention clip retainer.
Insert Arrangements	IPT SE: 25 dierent power and signal insert arrangements, featuring 16 and 20 gauge contacts; 3 to 61 contacts. IPT: 39 dierent power and signal insert arrangements, featuring 12, 16 and 20 gauge contacts; 2 to 61 contacts.
EMI Shielding	Shield termination backshell accessories are available for all plug and receptacle configurations.
Shell Styles	Complete range of shell styles is available, including front and rear mount angle receptacles, jam-nut receptacles, bulkhead feedthrus, and straight and 90° plugs.
Polarization	5 keyway configuration with optional polarization.
Approvals	IPT SE is qualified to VG 95328. Both IPT and IPT SE meet all requirements of MIL-DTL-26482 Series I.
Intermateability	Intermateable with all industry standard bayonet connectors designed to MIL-DTL-26482. Series I and VG 95328 including Veam VPT, Amphenol PT, and ITT Cannon KPT.

OPTIMIZED
FOR USE WITH

turboflex®
THE ULTRA FLEXIBLE RUGGED POWER CABLE

IRT series high-current / high-voltage multipole traction motor connectors with IRIS certification

SMOKE TOXICITY FLAME FST COMPLIANT

High current/high voltage electrical connectors for traction motor, lighting, data communications, and more.

The interconnection of power transmission cables in traction motors is a critical application. Conventional systems may employ bulky and inefficiently-sealed junction boxes for cable interconnection. Glenair offers a number of different special-purpose designs for traction motors and other power requirements on transit cars. Features such as integral mounting, robust environmental sealing, screw and/or lever-action mating, as well as compliance to transit industry standards such as IRIS, FST, and RoHS make Glenair the natural design partner and supplier to the worldwide mass transit / rail industry. The following pages present an overview of our most popular power and signal connector series, principally manufactured, tested, and qualified in our Bologna, Italy, factory. Glenair delivers worldwide application engineering and support to the mass transit / rail industry with support teams located in every major market.

- **Innovative screw and lever mated power connectors for mass transit / rail applications**
- **Proven performance and qualification credentials in hundreds of installations**
- **IRIS International Railway Industry Standard certified (Rev. 02, May 2009)**

RUGGED

IRT Power and Signal Connectors for Mass Transit Applications

Rectangular multipole connectors with locking feature

SERIES IRT RECTANGULAR MULTIPOLE HIGH VOLTAGE TRACTION MOTOR CONNECTORS

Plug Connector

Receptacle Connector

The Glenair IRT series is a rectangular power connector for harsh environmental conditions.

Available with three, four, and six contacts, typical for traction motor applications.

Suitable for single cables AWG 4 – 373MCM (35 to 185 mmq).

Working voltage up to 3000 VCC.

Two mating systems offered:

- Screws, for light weight and reduced dimensions
- Lever system with secondary lock, easy-to-use in difficult positions.

The IRT Series is suitable for separated power cables, with or without shielding, ground body available with a copper plait.

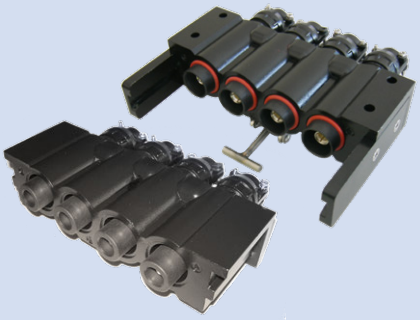
Available with three different cable back-end styles:

- Metallic gland
- Clamp with strain relief
- EMC shield and gland

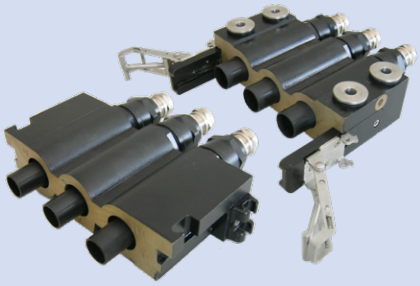
SERIES IRT CONNECTOR SELECTION GUIDE

Size 01
3 contacts, Screw Mating

Size 02
4 contacts, Screw Mating



Size 03
3 contacts, Lever Mating



Size 04
3 contacts, Double-Lever Mating

Size 05
4 contacts, Lever Mating

Size 06
6 contacts, Stacked, Lever Mating

I J K L M N O P Q R S T U V W X Y Z

OPTIMIZED
FOR USE WITH

turboflex®
THE ULTRA FLEXIBLE RUGGED POWER CABLE

ITS 500 Series · ITS 901 Series · Series UJ
Rugged high-current / high-voltage connectors for metro traction motor / jumper cable applications

ITS 500 SERIES REVERSE BAYONET SINGLE-POLE HIGH VOLTAGE JUMPER CONNECTORS

Single-pole plug connector with castellated coupling nut

ITS 500 Series derives from the VG96929 military specification for power connectors. Suitable for harsh environmental conditions, ITS 500 accepts cable gauges AWG 3/0 to 444MCM (95-240 mmq), for current up to 750 Amps.

Special insulator drawing allows high working voltage, up to 3000 VCC.

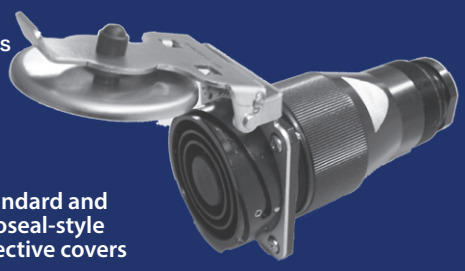
Suitable for jacketed cables, with or without conduit protection.

Receptacle with finger protection (load side).

ITS 500 meets the most important rail requirements and specifications:

- 500 Mating Cycles
- Salt Spray Test Corrosion: 500 hours
- Shock and vibration for under-car and car-to-car applications
- IP67 Sealing (Coupled Connectors)
- Fire Resistant and RoHS-compliant materials

Single-pole receptacle connector



Standard and proseal-style protective covers

HIGH-CURRENT / HIGH-VOLTAGE

ITS Specialty Power Connectors for Mass Transit Traction Motor Applications

Series ITS 901 · Series ITS 500 · Series UJ

ITS 901 SERIES REVERSE BAYONET MULTI-POLE MEDIUM VOLTAGE JUMPER CONNECTORS

Reverse-bayonet panel-mount receptacle connector

ITS 901 Series is the extension of the ITS Reverse Bayonet connector family, for power cables over AWG 1/0. Suitable for harsh environmental conditions, 901 Series Connectors accept cable from AWG 4 to 262 MCM (35 - 120 mmq), for current up to 450 Amps. Working voltage is from 800 - 1000 VAC. Available for single wires and multipole jacketed cables, with cable clamp or conduit.

Male contacts offer Finger Test Protection, Load Side (receptacle or plug). Long bayonet ramps, three polarization keys, and rubber recovered coupling facilitate mating and unmating operations. Plug connectors are available with coupling nut castellations or with special wing lock mechanism to prevent accidental de-mating.

901 Series meet the most important rail requirements and specifications:

- Salt Spray Test Corrosion: 500 hours;
- 500 Mating Cycles;
- Shock and Vibration for Under-Car and Car-To-Car Applications;
- IP67 Sealing (Coupled Connectors);
- Fire Resistant and RoHS Compliant Materials.

Wide range of available backshell accessories

Reverse-bayonet plug with castellated coupling nut

Reverse-bayonet plug with RadGrip coupling nut

Reverse-bayonet plug with wing-lock mechanism

UJ SERIES UNIPOLE POWER JOINT CONNECTOR SYSTEM

3-position configuration

2-position configuration

The Glenair UJ Power Joint system allows connection of medium and high power cables without the need for bulky junction boxes. The UJ Power Joint System offers the same environmental protection with substantial size and weight savings and better temperature tolerance than junction boxes.

Head-to-head size comparison: UJ connector vs. junction box

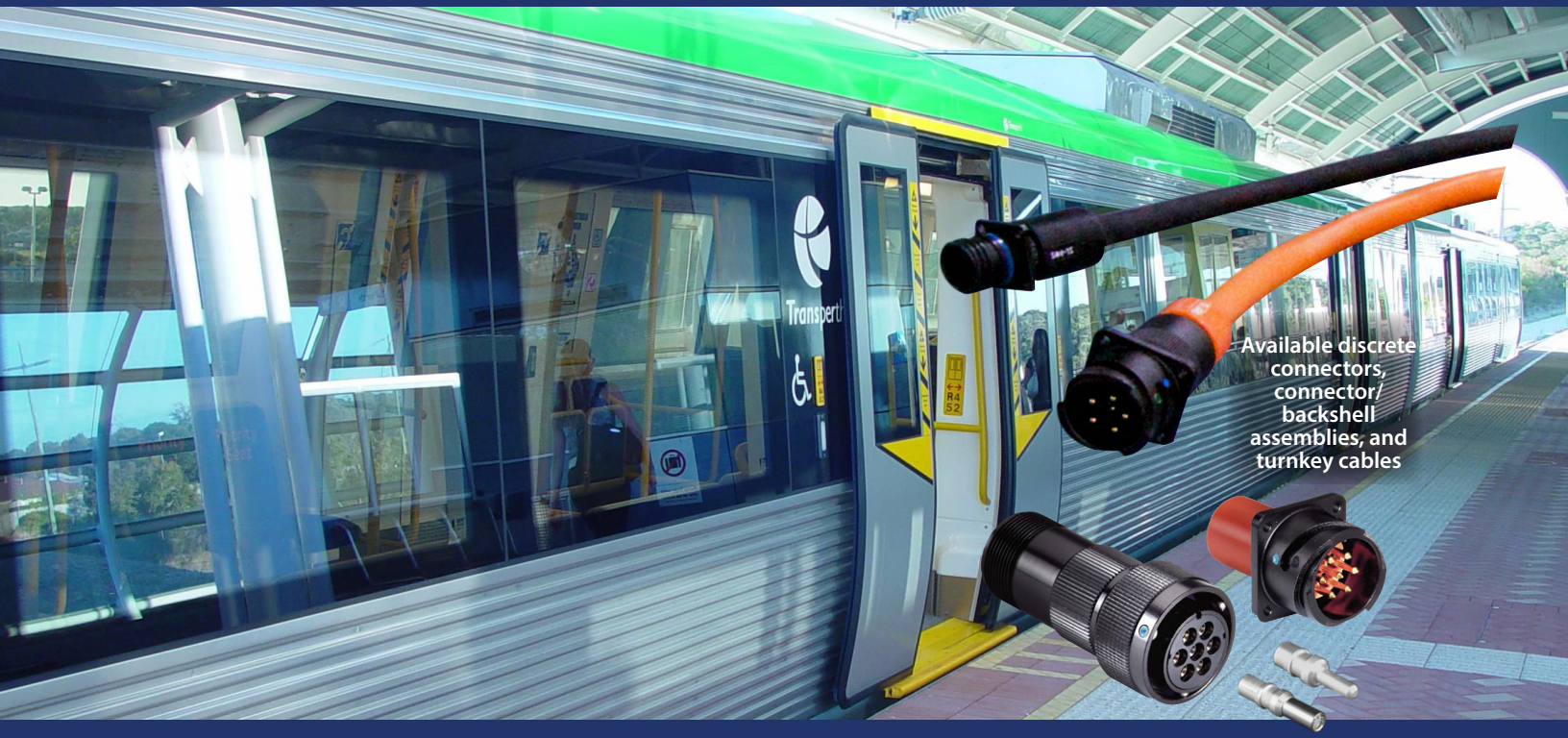
	UJ SERIES	JUNCTION BOX
Dimensions	Small	Regular / Big
Weight	Light	Heavy
Protective Varnish	No	Yes
Modularity	Yes	No
Environmental	Yes	Yes
Electrical Performance	Yes	Yes
Cost Reduction	Yes	No
Temperature Range	High	Standard

OPTIMIZED
FOR USE WITH

turboflex®
THE ULTRA FLEXIBLE RUGGED POWER CABLE

ITS POWER™

Rugged reverse-bayonet power and signal connectors for general-purpose rail and industrial applications



Environmental and mechanical protection of cables, conductors, and contacts is a critical requirement in rail and industrial applications especially when frequent mating and unmating is required, or when cables are routed through exposed intercar or undercar locations. To ensure rapid and accurate car linking and cabin reconfigurations, interconnects must be easy to couple and keyed to avoid mis-mating. Vibration, shock, and connector decoupling problems are also common in rail applications and require focused attention when selecting shell materials and mating technologies. As passenger and crew safety is paramount, interconnection systems must not compound flammability, smoke, or toxicity risks. Series ITS meets all of these requirements and more, and has demonstrated proven performance on virtually every rail industry sub-system.

- **Proven interconnect solution built IAW MIL-DTL-5015 and qualified to VG95234**
- **Hundreds of power and signal crimp and solder contact arrangements**
- **Standard insert, flame-resistant insert, rigid dielectric insert, and high-temperature ceramic stainless steel firewall**

SERIES ITS (EXPLODED VIEW)

VG qualified

- Machined body and shell components
- Broad range of plating choices including innovative new Tin-Zinc formulas
- Silver- or gold-plated crimp and/or solder cup contacts
- Reverse-bayonet mating with stainless steel locking pins
- Environmentally sealed

REVERSE-BAYONET

ITS Power Industry-Standard 5015-Type Reverse-Bayonet Connector Series

VG-qualified and Glenair Signature solutions

FR ITS FLAME-RESISTANT SERIES

FR ITS is the fire-resistant ITS connector series, designed with flame, smoke, and toxicity-compliant insulating materials, FRITS is broadly utilized for environmental and non-environmental rail applications. More than 230 insert arrangements are available, from 1 to 150 contacts. FRITS connectors are RoHS-compliant and IP67 environmentally sealed.

Available FRITS - STR backshells provide versatile locking of cables or wires into the connector, providing IP67 sealing and EMI/RFI termination.

FR-ITS STR backshell for EMI shielding and IP67 sealing

ITH RIGID-DIELECTRIC SERIES

The ITH connector series is based on the MIL-C-5015 standard but with improved reverse bayonet coupling. Rigid inserts and crimp contacts provide better electrical insulation and reduced assembly time. The 3-point, positive-locking reverse bayonet coupling mechanism provides easier mating in awkward positions, reliable resistance to vibration and shock, and prevents de-coupling. ITH connectors conform to the VG95234 standard, French (NFF 61030) electrical standards, as well as EEC compliance directives for electromagnetic compatibility. EMI shield termination accessories are available for both overall as well as individual wire shields.

- Design IAW MIL-C-5015 and VG95234
- Temperature range -40°C to +100°C (conductive plating) or -55°C to +125°C (non-conductive plating)
- RoHS compliant
- Low fire hazard inserts, UL94V0 and NFF 16-102 compliant
- Halogen-free silicone rubber gaskets per NFF 16-102

ITK STAINLESS STEEL / CERAMIC INSERT FIREWALL SERIES

Standard plug and receptacle

The high-temperature tolerant ITK series is a rugged reverse-bayonet mating connector that utilizes stainless steel connector shells and special high-temperature ceramic inserts. Compliant to EN 45545 standards, ITK connectors are capable of operation at +700°C for 15 minutes without electrical discontinuity.

ITK "piccolo" 2-pin plug and receptacle

- Ultra high-temperature tolerant ceramic inserts
- Stainless-steel construction
- EN 45545 compliant
- Operates at +700°C for 15 minutes, with no electrical discontinuity

OPTIMIZED
FOR USE WITH
SeaKing
PRESSURE-RATED CABLES

ITSEx™

IEC IECEx RoHS MATERIALS

IECEx and ATEx Qualified Hazardous / Explosive-Zone Connectors and Cables

- Over 40 power and signal contact arrangements
- Full support for armored and unarmored cable
- MIL-DTL-5015 crimp-contact derivative solution
- Locking set screw-equipped coupling nut and protective safety covers
- Extended shell labyrinth cooling zone and potting chamber on all designs
- Mechanical cable clamp, basket weave, and Ex d cable gland accessories
- IP68 water, vapor, moisture, and dust protection in mated condition
- Qualified replacement for Amphenol Star-Line EX

Glenair's factory in Bologna, Italy, is fully qualified to IECEx standards

IECEx / ATEx QUALIFIED

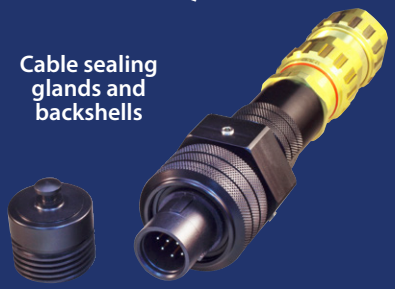
ITS-Ex
Explosive Zone Connectors and Cables

Worldwide qualification credentials

ITS-Ex CONNECTOR CONFIGURATIONS AND STYLES MEET EVERY Ex APPLICATION REQUIREMENT

Supplied with a non-removable label per ATEx and IECEx directives

Locking set-screw protective covers



Cable sealing glands and backshells

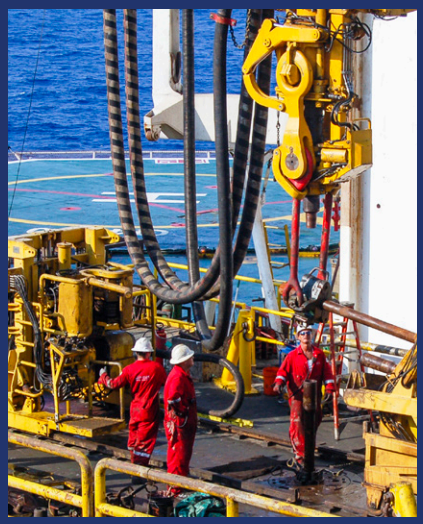
Basket wire mesh grips

Plug with coupling nut set-screw

Bulkhead and cable flange mount configurations

RANGE OF APPLICATIONS

- Automotive fueling stations
- Oil & gas extraction
- Oil refineries
- Gas pipelines / distribution
- Chemical processing plants
- Aircraft refuelling / hangars
- Transportation
- Pharmaceuticals
- Food processing
- Metal surface grinding
- Sugar refineries
- Grain handling and storage
- Coal mining
- Well Control Equipment



ATEx / IECEx LABELS

Glenair ITS-Ex connectors are supplied with a non-removable label per ATEx and IECEx directives:

ATEx Marking

CE 2460 Ex

II 2 G Ex db IIC T6, T5 Gb
II 2 D Ex tb IIIC T80°C, T95°C Db IP68
-40°C ≤ Tamb ≤ +40°C (T6, T80°C) or +55°C (T5, T95°C)

IECEx Marking

Ex db IIC T6, T5 Gb
Ex tb IIIC T80°C, T95°C Db IP68
-40°C ≤ Tamb ≤ +40°C (T6, T80°C) or +55°C (T5, T95°C)

ATEx Marking FOR PANEL MOUNT CONNECTORS ONLY:

CE 2460 Ex

II 2 G Ex de IIC T6, T5 Gb
II 2 D Ex tb IIIC T80°C, T95°C Db IP68
-40oC ≤ Tamb ≤ +40°C (T6, T80°C) or +55°C (T5, T95°C)

IECEx Marking

Ex de IIC T6, T5 Gb
Ex tb IIIC T80°C, T95°C Db IP68
-40°C ≤ Tamb ≤ +40°C (T6, T80°C) or +55°C (T5, T95°C

OPTIMIZED
FOR USE WITH
MIL-STAR™
HIGH-PERFORMANCE HOOKUP WIRE AND CABLE

ITS-NG: Nuclear industry standard reverse-bayonet power and signal connectors for existing Gen II plant refurbishment

Glenair ITS-NG series connectors can be configured to meet Gen II LOCA requirements and are suitable for equipment retrofit and refurbishment applications to legacy plant containment area requirements. These industry-standard legacy reverse bayonet-lock connectors offer fast and reliable mating and unmating. Shells are available in stainless steel or aluminum in various finishes and platings, offering insert and O-ring material choices such as EPDM, silicone, PEEK, Epiall, and others.

Discrete connectors or turnkey cable assemblies

The Nuclear-Grade ITS series connector is a Glenair MIL-DTL-5015 reverse-bayonet connector, dimensionally and electrically compliant to MIL-DTL-5015 specifications, offering the full array of contact plating and size options, as well as power and signal insert arrangements.

These connectors are available as commercial grade or manufactured under our 10CFR50 Appendix B nuclear quality program.

- **Fast connect / disconnect reverse-bayonet coupling**
- **Stainless steel or aluminum shells with various plating and finish options**
- **Chemical / radiation tolerant and moisture resistant inserts and O-rings**
- **Performance tested for advanced temperature, radiation, and seismic**
- **Ideally suited for I&C applications, valve control devices, sensors, and other electronic equipment in nuclear rest-of-plant and safety-related applications**

QUICK-CONNECT / DISCONNECT ACTION

ITS-NG Reverse-Bayonet (5015 type) Nuclear-Grade Interconnects

For rest-of-plant and legacy containment area applications

GLENAIR SERIES ITS-NG APPLICATION NOTES

- Series ITS-NG connectors are based on the legacy MIL-DTL-5015 standard, with the same insert arrangements, shell dimensions, supported contacts, and electrical performance ratings—but with an improved reverse-bayonet coupling technology in place of the threaded interface used on standard MIL-DTL-5015.
- The ITS-NG family of connectors features improved O-ring sealing and other design enhancements for use in Gen II plant safety-related applications, as well as for use in rest-of-plant applications. For new interconnect applications in modern-day Gen III power plants, Glenair recommends the SuperNG or Mighty Mouse NG series.
- ITS-NG is an industry-standard legacy connector design, intermateable and intermountable with all other 5015-based reverse-bayonet connector series. ITS-NG is appropriate for retrofit and refurbishment applications, as the 3-point bayonet coupling mechanism reduces mating/unmating time, an important consideration in time-sensitive outage servicing. Positive locking of the three stainless steel pins provides audible, visual, and tactile confirmation of full mating engagement for double-gloved technicians, as well as resistance to vibration and shock, preventing connector de-coupling in harsh device-mount applications such as steam-pipe mounting.
- Both plug and receptacle connector configurations are available with client-specified insert and O-ring materials, such as EPDM, silicone, Epiall, or PEEK.
- ITS-NG connectors may be supplied with backshells and accessories for IP-rated environmental sealing for high humidity and submersion applications.
- Glenair ITS-NG connectors are particularly well-suited for use in applications where electromagnetic compatibility is a requirement, as a complete range of EMI shield termination accessories is available for overall and individual wire shields.

CONTACT SPECIFICATIONS-COPPER ALLOY WITH GOLD PLATING (STANDARD)

CONTACT SIZE	RATED CURRENT AT 20 C	RATED CURRENT AT 80 C	MAX. CONTACT RESIST.	WIRE SIZE
20	7.5 A	7.5 A	12.0 mΩ	20-26 AWG
18	10A	7.5 A	12.0 mΩ	18-26 AWG
16	22 A	13 A	6.0 mΩ	16-22 AWG
12	41 A	23 A	3.0 mΩ	12-14 AWG
8	73 A	46 A	1.0 mΩ	8-10 AWG
4	135 A	80 A	0.5 mΩ	4-6 AWG
0	245 A	150 A	0.3 mΩ	0-2 AWG
4/0	350 A	225 A	0.2 mΩ	4/0 AWG

SERVICE RATING (MINIMUM INSULATING RESISTANCE: ≥ 5 X 103 MΩ)

CLASS	OPERATING VOLTAGE VDC	OPERATING VOLTAGE VAC RMS	TEST VOLTAGE VAC RMS
INST.	250 V	200 V	1000 V
A	700 V	500 V	2000 V
D	1250 V	900 V	2800 V
E	1750 V	1250 V	3500 V
B	2450 V	1750 V	4500 V
C	4200 V	3000 V	7000 V

MATERIALS AND FINISHES	
Shells, Coupling Nuts	316 Stainless Steel, Passivated Aluminum—various platings and finishes available
Contacts	Copper alloy, Gold Plated or Silver Plated for larger contacts in higher-amperage applications
Hoods (Socket contacts)	Copper Alloy, Nickel-Plated
Pencil Clip (Socket contacts)	Stainless Steel
Wave Spring	Stainless Steel
Grounding Finger	Beryllium Copper

A GLENAIR SIGNATURE

High-Rel Cable Assembly

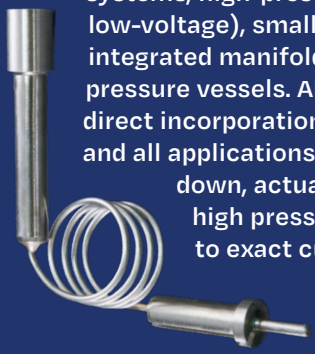
CRITICAL COMPONENT

Joule-Thomson Type Pure Gas Manifolds, Pipework, and Valve Subassemblies IAW DEF STAN 58-96

Also available: rotary unions and joints for high-pressure pure-air / argon applications and systems

Glenair high pressure pure-air/nitrogen gas solutions are designed and performance tested for use in a wide variety of defense and aerospace applications, including cooling of infrared detectors, missile seekers, and all high pressure pneumatic actuation and deployment systems. Products include sealed-for-life gas supply systems, re-chargeable gas supply systems, high-pressure solenoid valves (miniature and low-voltage), small-bore pipe assemblies, relief valves, integrated manifold assemblies, charge valves and high-pressure vessels. All systems and ancillaries are designed for direct incorporation into joule-Thomson (JT) cryogenic systems and all applications which require reliable pressurization, blow down, actuation, and ir cooling. Glenair pure-air and high pressure systems and components are designed to exact customer requirements and specification.

- **Ultraminiature and lightweight pneumatic components and sub-assemblies**
- **Pure air and nitrogen (DEF STAN 58-96)**
- **High-pressure cylinders, solenoid valves, rotary joints, manifolds, and complete sub-assemblies**



Brazed stainless steel pipework

PURE AIR/NITROGEN

Joule-Thomson Lightweight Modular IR Cooling and Actuation Systems

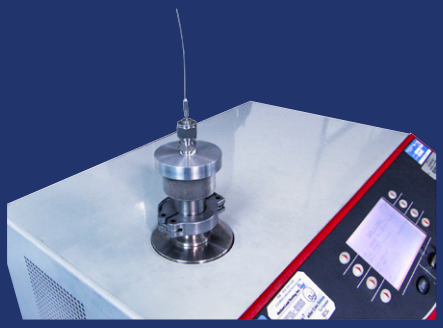
For use in IR guided weapons and ejection systems

Glenair pure gas/nitrogen systems and sub-assemblies provide passage of nitrogen and other pure, pressurized gases through precision-machined components such as pressure regulating valves, solenoids, and Joule-Thompson cryogenic cooling systems. Assemblies feature precision stainless steel pipeworks and tubing that are fabricated using a flux-free brazing process and are ultrasonically cleaned and packaged in a sealed, dust-free environment. Electromechanical components are also precision-machined with material properties and dimensional attributes per customer specifications.

- **Manifold assemblies – including charging valves, relief valves or burst discs, pressure gauges, control valves**
- **Pipework sub-assemblies connecting cylinders to manifolds or components**
- **Pressure regulating valves**
- **Solenoid valves – manifold or in-line; single or two-stage**
- **Manifolds to other sub-assemblies**

TYPICAL PERFORMANCE	
Flow Rate	Typical Flow Rate is 5 liters per minute (lpm) @ 150 psi.
Operating Temperature	-65°C +175°C for all applicable mechanical requirements.
Physical Shock	No loosening of parts, cracking or other deleterious results hindering further part operation after 300 G's in each of 3 mutually p7erpendicular planes.
High Impact Shock	All components withstand high impact shock per MIL-S-901.
Vibration	All components withstand high-vibration with no evidence of cracking, breaking or loosening of parts.

Pressure test rig

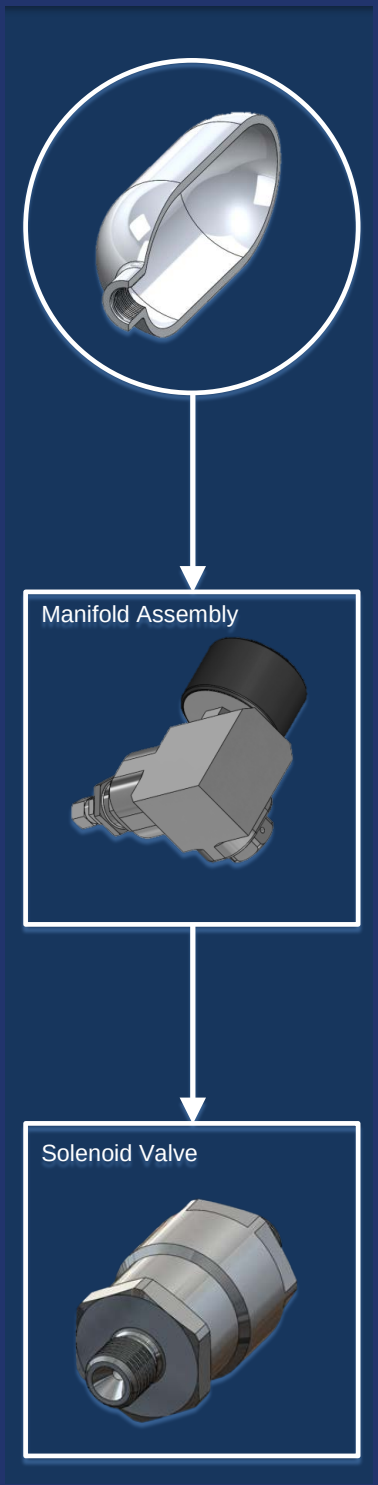


Gas tube helium leak test equipment

Pure air compatibility test equipment

Brazing control panel

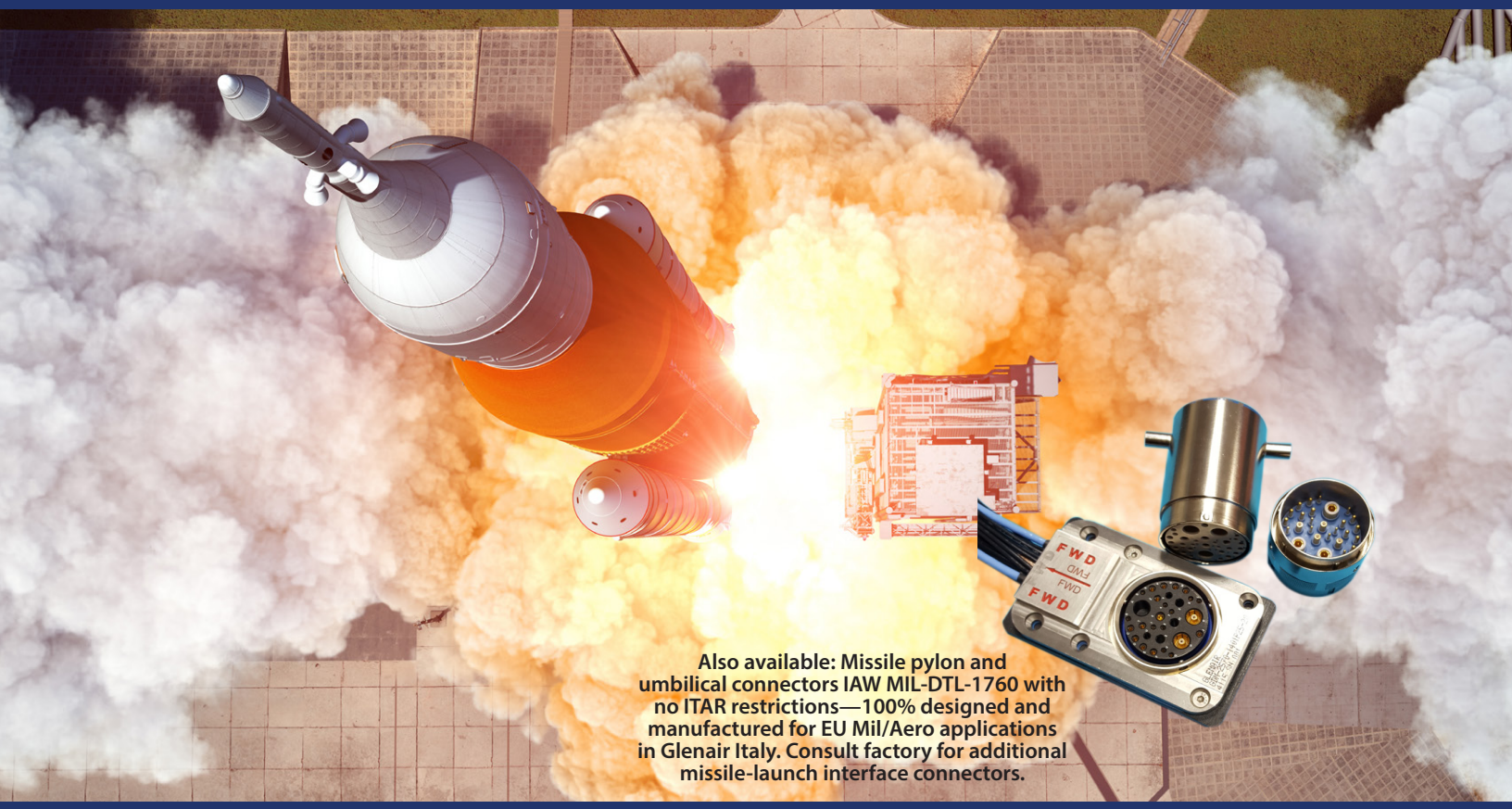
Solutions built to exact customer requirements and specifications



J K L M N O P Q R S T U V W X Y Z

OPTIMIZED
FOR USE WITH
MIL•STAR™
HIGH-PERFORMANCE HOOKUP WIRE AND CABLE

Lanyard-Release Fail-Safe Connectors: SAE-AS81703 Series 3, MIL-DTL-38999 Series III, and MIL-DTL-1760 Type



Also available: Missile pylon and umbilical connectors IAW MIL-DTL-1760 with no ITAR restrictions—100% designed and manufactured for EU Mil/Aero applications in Glenair Italy. Consult factory for additional missile-launch interface connectors.

Ideal for high shock / high vibration environments including outer space and defense applications such as missile and payload deployment, Glenair lanyard-release interconnects provide fail-safe, quick-disconnect operation. Supplied in standard density (AS81703 Series 3 type) and high density (MIL-DTL-38999 type) configurations, each connector series is intermateable and intermountable with currently available mil-spec and commercial connectors, and offer enhancements to standard designs. Both the standard-density series and the high-density series are available with an integrated band porch for shield termination, 360° saw teeth for rear-end accessory clocking, and a red full-mate indicator stripe. The AS81703 Series 3 type connector is ideally suited for droppable stores, umbilical connections, rocket launch, and other extreme vibration and shock environments where rugged and reliable blind mating and lanyard-release disconnection is a must. The D38999 Series III type interconnect is designed for applications that require high-density and combo insert arrangements IAW MIL-STD-1560.

- **Intermateable and intermountable with industry-standard connectors**
- **Available integrated band porch for easy shield termination**
- **360° saw teeth for accessory clocking**
- **Red full-mate indicator stripe**
- **Fail-safe instant-disconnect axial-pull lanyard coupling**
- **Blind mate and rack-and-panel capabilities**
- **Polarization keying for mis-mate prevention**

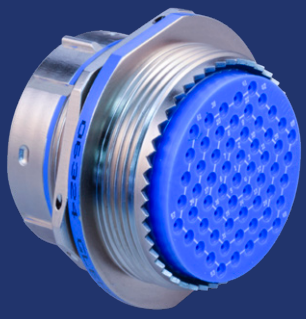
SAE-AS81703 AND SUPERNINE D38999 SERIES III TYPES

Lanyard-Release Fail-Safe Connectors

Standard-density and high-density solutions

STANDARD-DENSITY SAE-AS81703 SERIES

Integrated banding porch for easy shield termination



360° saw teeth on plug and receptacle back ends for fully-configurable accessory clocking

Rack-and-panel mating configuration

Full complement of high-availability backshells and connector accessories

Industry-standard intermateable / intermountable designs

HIGH-DENSITY SUPERNINE SERIES III LANYARD-RELEASE IAW MIL-DTL-38999 AND MIL-STD-1560

Lanyard-release plug with adapter code H accessory thread interface

Lanyard-release plug with integrated cable shield banding platform

Broad range of insert arrangements IAW MIL-STD-1560

A GLENAIR SIGNATURE

High-Rel Cable Assembly

CRITICAL COMPONENT

LEONARDO'S PROSEAL spring-action protective covers

Leonardo's ProSeal IP67 and IP56 rated protective covers for mission-critical aerospace applications

High-performance aerospace applications employ protective covers to seal unmated receptacles from sand, dust, and moisture ingress, as well as other forms of environmental and mechanical damage. ProSeal protective covers are mounted directly to panels and electronic equipment housings to enhance the reliability and consistent use of connector covers. Spring-action equipped ProSeal covers are available for every military QPL and Glenair signature connector series and are supplied in a broad range of designs to meet every application requirement.

- **Anti-vibration and shock spring-action solution**
- **IP67 (dust / immersion) and IP56 (dust / water jet) ingress protected designs**
- **Self-aligning environmental seals**
- **Lock in open position or automatic closure**
- **Compatible with a broad range of military standard and commercial connectors including D38999 Series I, II, III, Mighty Mouse Series 801, 804, 805, and 806, MIL-DTL-24308 and more**

CIRCULAR AND RECTANGULAR

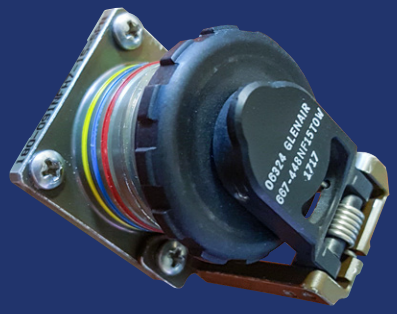
Leonardo's ProSeal Spring-Action Protective Covers

Hands-free · vibration- and shock-proof · metal and composite

ROBUST ENVIRONMENTAL SEALING

Self-aligning gimbal-action face seal

Anti-vibration and shock spring-action performance



Full environmental threaded / twist-lock seal

RUGGED MECHANICAL PERFORMANCE

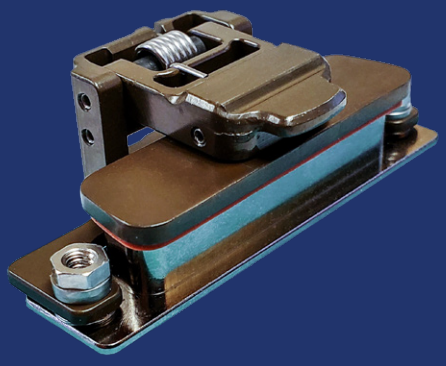
Dual-action mechanism: cover locks in open position and holds tight in closed position

ProSeal cover shares connector mounting holes and hardware

Jam nut and wall mount configurations available in all styles

VERSATILITY OF DESIGN

Suitable for all circular designs including commercial USB / RJ45 interfaces



Rectangular connector designs with convenient thumb tabs

Low-profile non-locking designs for use with recessed quick-disconnect connectors

OPTIMIZED
FOR USE WITH
MIL-STAR™
HIGH-PERFORMANCE HOOKUP WIRE AND CABLE

LRM INTERMATEABLE

Compliant pin brush-contact connectors for legacy and new design LRM module-to-backplane applications

Glenair Line Replaceable Module (LRM) connectors are drop-in solutions for military and commercial avionics, missile systems, C4ISR, and other harsh-environment LRM module-to-backplane interconnect applications. Available in single bay, dual bay, and triple bay packaging, Glenair LRM brush contact connectors support both standard SEM-E size modules as well as custom design requirements. Fully qualified and intermateable with Amphenol Staggered Grid LRM products, the Glenair LRM solution introduces important performance improvements including precision-machined, gold-plate over nickel compliant pins and zero-FOD / zero electrical discontinuity weld-in-place brush contacts. Digital signal LRM module and backplane blind-mate connectors as well as mixed contact support for power, GPPO coax (SMPM), fiber optic (MT) inserts, and 270VDC power inputs available.

- **Low mating and unmating forces**
- **High mating cycles**
- **Compliant pin board terminations on PC tails**
- **Single, dual, and triple-bay staggered-grid layouts: digital signal, power, RF, MT optical, and 270VDC contact**
- **Mechanical features include polarization keys, ESD shrouds, straddle-mount lead frames, and guide/ground pins**

LOW INSERTION FORCE, HIGH DENSITY

LRM Brush Contact Connectors

Staggered-grid backplane and module solutions
Qualified · intermateable · harsh-environment

ABOUT GLENAIR LRM AND BACKPLANE CONNECTORS

Glenair has fully qualified its Staggered Grid LRM interconnect series for reliable interoperability with existing industry products. LRM and backplane connectors manufactured by Glenair are equipped with superior performance brush contacts with precision-machined compliant pin terminations and zero-FOD weld-in-place brush contacts. The connectors are manufactured to standard SEM-E size formats with accommodation for common PWB and heat sink widths and thicknesses.

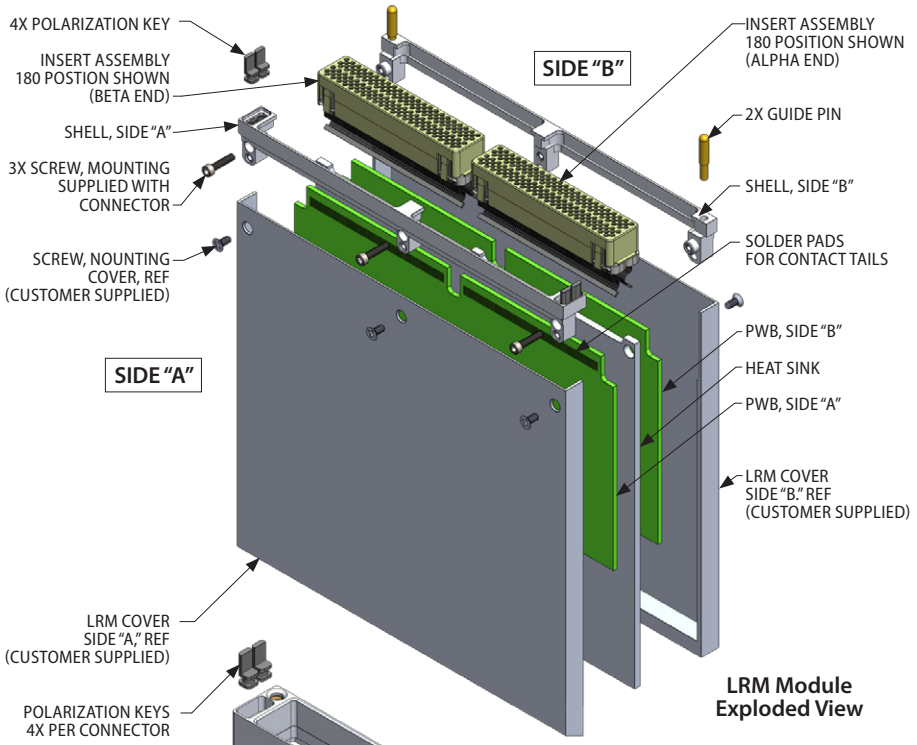
EMI SHIELD: Aluminum alloy 6061-T6 per AMS 4150; finish is hardcoat anodize per MIL-A-8625 with epoxy final coat. Ground tabs are chromate treated (iridite).

POLARIZATION KEYS: Stainless steel per AMS 5640; finish is black oxide per MIL-DTL-13924. Key retaining ring is Polyamide (nylon 12) with 50% glass filled fibers.

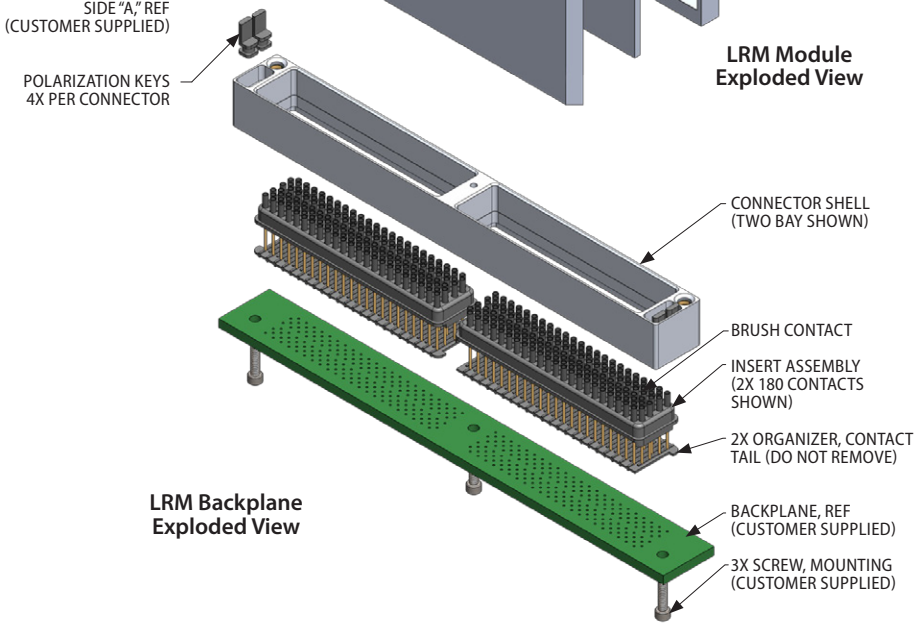
GUIDE PINS: Beryllium copper alloy per ASTM B196, finish is gold per ASTM B 488 over nickel per AMS-QQ-N-290.

ABOUT BRUSH CONTACTS

- **Virtually zero fretting corrosion**
- **Long service life: tested to 200 mating cycles**
- **No micro-arching**
- **Zero FOD / zero electrical discontinuity welded brush construction**
- **Precision-machined compliant pin backplane termination**
- **Straddle-mount termination (module connector)**
- **Intermateable with Amphenol LRM**

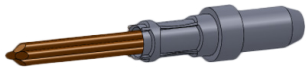


LRM Module Exploded View



LRM Backplane Exploded View

Backplane (compliant) hooded brush socket



Module (lead frame) brush pin

L M N O P Q R S T U V W X Y Z

OPTIMIZED
FOR USE WITH
SeaKing
PRESSURE-RATED CABLES

MARINE MOLDED™

Industry-Standard Wet-Pluggable Rubber Molded Connectors

Intermateable and intermountable industry-standard rubber molded connectors for ROVs and other Oil & Gas applications

Glenair Marine Molded (Series GLMC) rubber molded connectors are fabricated using only the highest-grade materials and quality controls. Prewired inline and bulkhead connectors are supplied in symmetrical layouts from two to sixteen contacts for subsea ROV, towed-array, offshore oil, and other harsh oil and gas industry applications. The industry-standard connector series is fully compatible (intermountable and intermateable) with other connector series of this type.

- **Wet pluggable capability**
- **Up to 10,000 psi / 690 Bar (6,800m/22,500ft) mated**
- **2-16 contact layouts available**
- **Locking sleeves - multiple colors available**
- **316L stainless steel bulkhead (standard), brass and PEEK available**
- **600 V (2, 3, and 4-way)**
- **300 V (5, 6, 8, 10, 12, and 16-way**
- **Overmolded with standard Neoprene, Nitrile, Hypalon, or Polyurethane**

SERIES GLMC

Marine-Molded Connectors and Cables

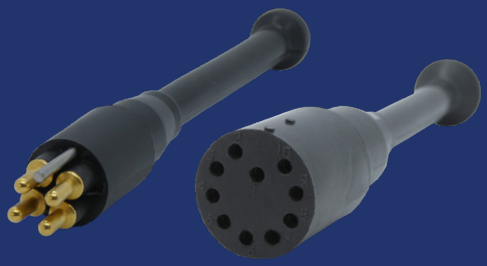
Wet-pluggable · 10K psi · intermateable and intermountable

GLMC CONNECTOR CONFIGURATIONS

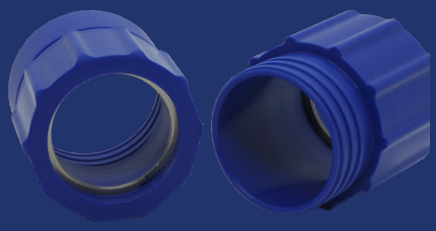
In-line flying lead connector, molded, male or female

Bulkhead connector, male or female

In-line to in-line molded cable

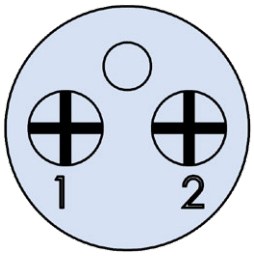
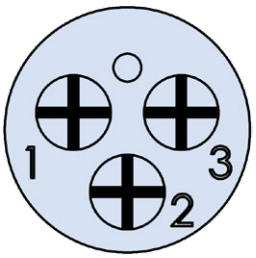
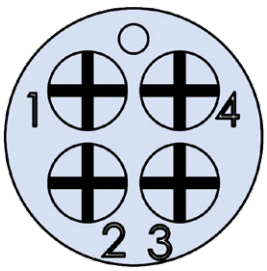
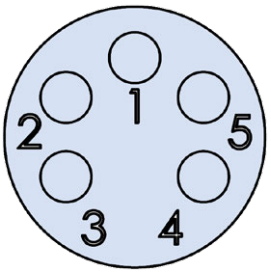


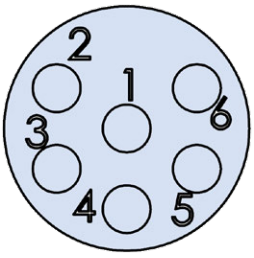
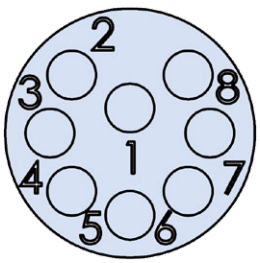
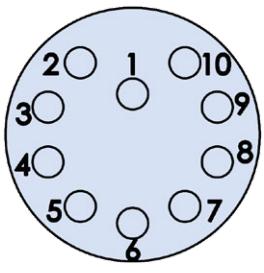
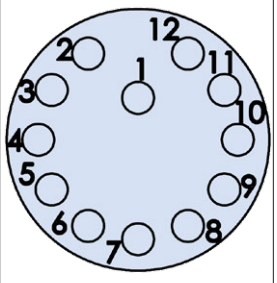
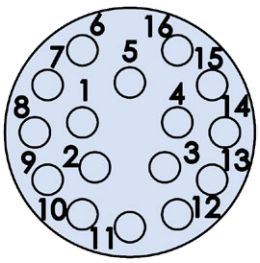
Dummy connector, male or female



Locking sleeves, male or female

INSERT ARRANGEMENTS

			
2 Way BH - 20 AWG Wires IL - 18 AWG Wires	3 Way BH - 20 AWG Wires IL - 18 AWG Wires	4 Way BH - 20 AWG Wires IL - 18 AWG Wires	5 Way BH - 22 AWG Wires IL - 20 AWG Wires

				
6 Way BH - 22 AWG Wires IL - 20 AWG Wires	8 Way BH - 22 AWG Wires IL - 20 AWG Wires	10 Way BH - 22 AWG Wires IL - 20 AWG Wires	12 Way BH - 22 AWG Wires IL - 20 AWG Wires	16 Way BH - 22 AWG Wires IL - 20 AWG Wires

M N O P Q R S T U V W X Y Z

A GLENAIR SIGNATURE

High-Rel Cable Assembly

CRITICAL COMPONENT

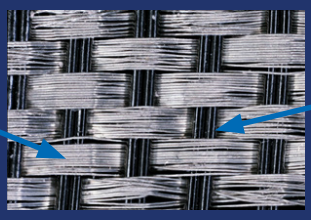
MasterWrap™

MasterWrap: flexible, lightweight, wraparound conductive- and non-conductive wire shielding

Tubular braided sleeving meets the broad range of EMC shielding and mechanical protection requirements of aircraft harness assemblies. But the need to apply shielding materials over already-installed aircraft wire and cable bundles requires new technology. Legacy self-wrapping cable braid has long been available for EMI/RFI applications and abrasion protection, albeit with poor performance due to its heavy weight, inflexibility, and "windowing," which results in poor shielding performance.

MasterWrap™, a lightweight, easy-to-install, side-entry, self-wrapping shielding solution—available in conductive ArmorLite™ and now in abrasion-resistant Nomex®—solves these problems and more. MasterWrap is ideally suited for both long-run wire harness protection as well as spot coverage and maintenance of EWIS cable applications—all with outstanding weight reduction and ease-of-assembly. MasterWrap ArmorLite and MasterWrap Nomex® are qualified for use at major aircraft manufacturers for long cable runs, spot coverage, and repairs.

Material design provides uniform surface with limited interference to structures and clamps. Reduces kinking and windowing compared to full metal braid solutions for excellent shielding performance.



Interwoven with high-temperature PEEK composite thermoplastic spring members that ensure up to 95% optical / mechanical coverage.

MASTERWRAP ARMORLITE

- **Up to 70% weight reduction**
- **500 hour salt spray corrosion resistance**
- **50,000 cycle 90°–120° bend flex tested**
- **Temperature tolerant from -65°C to 200°C**

MASTERWRAP NOMEX®

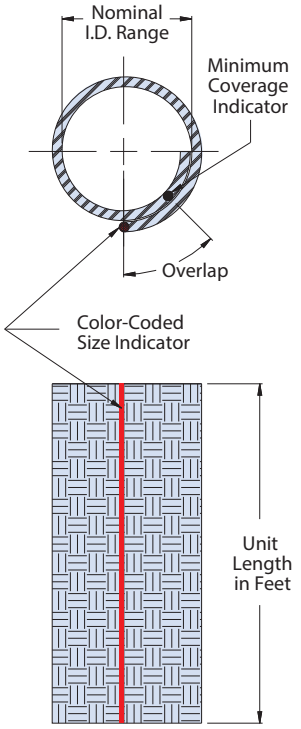
- **Soft, abrasion resistant unbonded Nomex® yarn**
- **-60° to +240°C temperature range**
- **90,000 psi yield tensile strength**
- **Excellent chemical resistance; will not melt**

METALLIC AND NON-METALLIC

MasterWrap™ Flexible, Lightweight Wraparound Cable Shielding

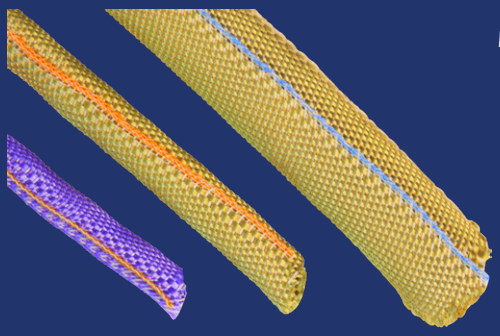
For spot mechanical coverage and repair of wire harnesses

MASTERWRAP (NOMEX®): DIMENSIONAL INFORMATION AND MATERIAL SPECIFICATIONS



AVAILABLE SIZES, COLORS, SPECIFICATIONS

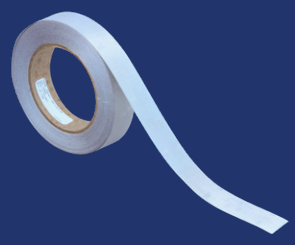
Dash No	Nominal I.D. (Ref.)		Ref. Wire Bundle Range Nominal		Approx. Weight Grams/Ft.	Min. Pull Strength (lbs)	Size Indicator color code	Quantity feet/spool
	In.	mm	In.	mm				
004	.125	3.2	.093 .170	2.4 4.3	1.8	39	Black	50–500
008	.250	6.4	.170 .300	4.3 7.6	2.3	75	Brown	50–400
012	.375	9.5	.300 .406	7.6 10.3	3.2	94	Red	50–300
016	.500	12.7	.406 .520	10.3 13.2	3.7	116	Orange	50–250
020	.625	15.9	.520 .675	13.2 17.2	5.0	158	Yellow	50–200
024	.750	19.1	.675 .825	17.2 21.0	6.0	193	Green	50–100
032	1.000	25.4	.825 1.100	21.0 27.9	7.3	237	Blue	50–100
040	1.250	31.8	.938 1.312	23.8 38.3	10.0	TBD	Violet	50–75
048	1.500	38.1	1.187 1.590	30.1 40.4	11.0	TBD	Gray	50
064	2.000	50.8	1.812 2.090	33.0 53.1	12.2	TBD	White	50



MasterWrap™ (Nomex®) is the ideal solution for mechanical abrasion protection of wire bundle harnessing in aircraft applications. Available color selections allow for easy identification and labeling of wire circuitry.

High temperature DuPont™ Nomex®; Monofilament - PEEK; Overlap tracer - high temperature DuPont™ Nomex®thread. DuPont™ and Nomex® are trademarks or registered trademarks of E.I. DuPont de Nemours and Company.

ADHESIVE EMI SHIELDING TAPE



Glenair 103-173 adhesive EMI shielding tape is an ideal solution for holding MasterWrap in place, for shielding of critical EMC terminations under cable overmolds, as a patch for on-site coverage of EMI holes, or as an EMC shielding solution for entire cables. The lightweight nickel-coated copper fabric is backed with a conductive, pressure-sensitive adhesive that secures the tape in place and adheres to itself and to EWIS components. Conveniently supplied in .5″, 1″, and 1.5″ width on 25 yard rolls.

OPTIMIZED
FOR USE WITH
MIL•STAR™
HIGH-PERFORMANCE HOOKUP WIRE AND CABLE

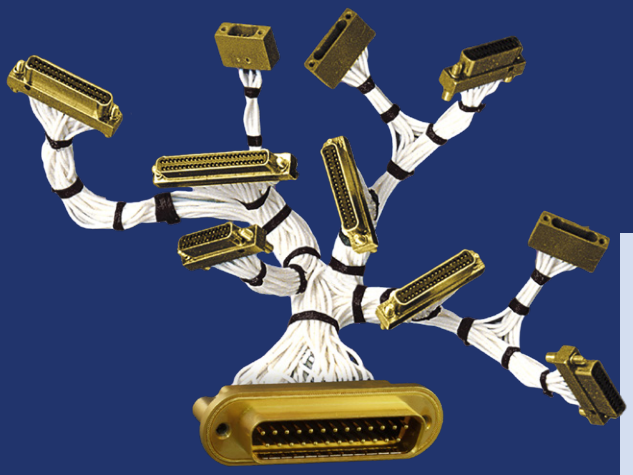
MICRO-D

MIL-DTL-83513 and Glenair signature Micro-D connectors and splice-free cable assemblies

The world leader in Micro-D connectors: from COTS to custom, backshells to hardware, Glenair has it all

TwistPin equipped MIL-DTL-83513 Micro-D connectors and cables offer outstanding mating performance, durability, low contact resistance, and same-day availability

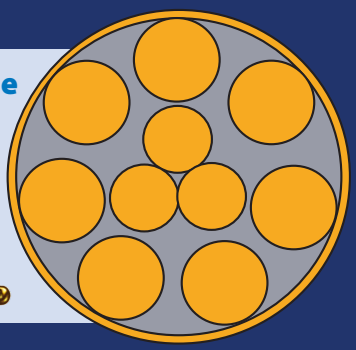
- **High density TwistPin contacts on .050" centers**
- **Turnkey multibranch and complex cable assemblies**
- **9 to 130 contact arrangements**
- **Single row, multi-row, low profile and high density insert arrangements**
- **QPL and commercial versions**



Splice-free Micro-D and Nano cable assemblies

The Micro TwistPin Advantage

Seven strands of TwistPin BeCu wire make direct contact with the machined socket, assuring low resistance, plenty of contact wipe, and superior shock and vibration performance.

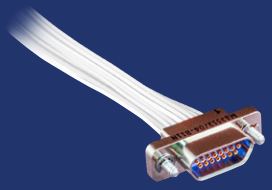


MIL-DTL-83513 AND COMMERCIAL

Micro-D Connectors

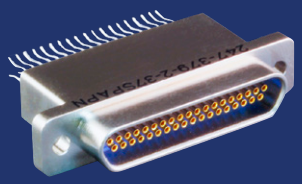
Mission-critical mating performance
Industry-leading selection and availability

MATERIAL CLASSES AND QUALIFICATIONS

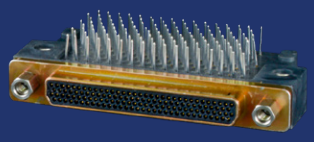


Environmental

Hermetic

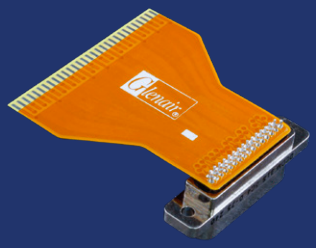


EMI / RFI Filter

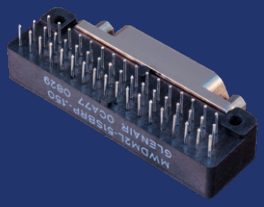


Space-Grade

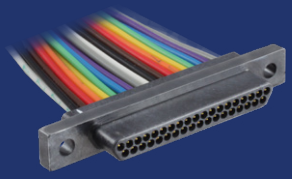
TERMINATION STYLES



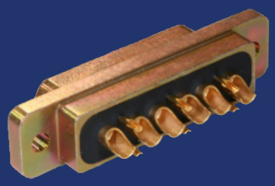
Flex



PCB

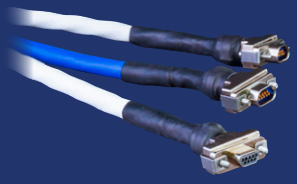


Pigtail

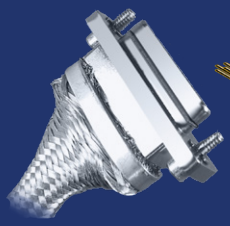


Solder

WIRED / CABLED CONFIGURATIONS



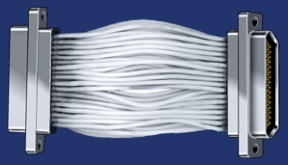
SpaceWire flight-grade and lab-grade assemblies



Shielded

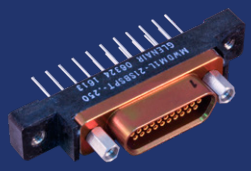
Uninsulated

Insulated



Back-to-Back

PCB DESIGNS



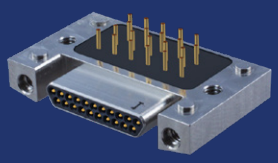
Vertical

Horizontal

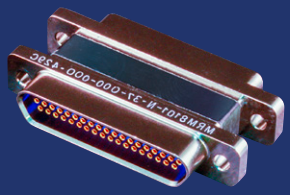
Surface-Mount

Shrouded

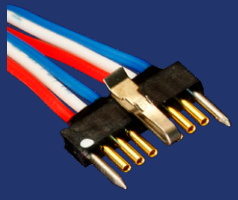
SPECIAL-PURPOSE DESIGNS



High-Temperature



Sav-Con®



Latching MicroStrip

FOD-free "G-Click" latching Micro-Ds

M N O P Q R S T U V W X Y Z

OPTIMIZED
FOR USE WITH

SpeedLine™
High-Speed Protocol Cables

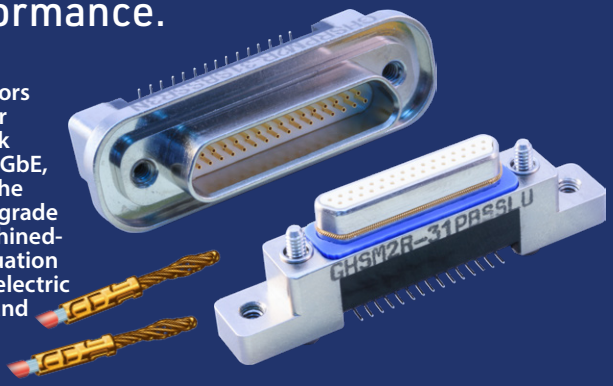
MICRO-D
High-Speed

The smallest and lightest aerospace-grade, high-speed Micro-D connector solution

Prewired cordset with overbraiding for abrasion protection

The High-Speed Micro-D uses an impedance optimized open pin field for high-density signal routing flexibility. 1 Amp pre-wired cable and PCB solutions deliver up to 15 Gbps performance per differential pair. Auxiliary EMC ground springs on plugs ensure data integrity and low attenuation performance.

High-Speed Micro-D connectors and cables are optimized for multi-gigabit digital datalink protocols including USB 3.0, 10GbE, Camera Link, and PCIe 3.0. The high-performance, aerospace-grade connector series features machined-shell packaging, low-attenuation contact spacing, low-k PPS dielectric insulators, and Glenair shock- and vibe-resistant Nano TwistPin contacts.



- **Pre-wired factory pigtails, cordsets, and PCB connectors**
- **Unique contact isolation and spacing for optimal high-speed performance up to 15 Gbps**
- **Supports maximum #28 AWG wire**
- **Low-κ dielectric insulator combined with optimized contact size and spacing**
- **Precision-machined shells with gold or nickel plating**
- **1 Amp TwistPin contacts for optimal performance in harsh vibration, shock, and high-temperature environments**

SERIES GHSM

Micro-D Connectors, High-Speed

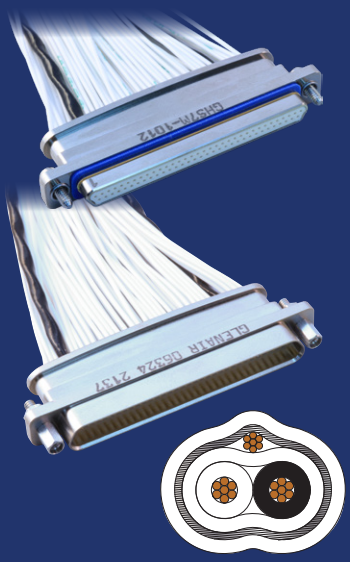
The miniature high-speed connector with mil-spec connector and contact pedigree

SUPPORTED HIGH-SPEED PROTOCOLS

Shell sizes and contact arrangements optimized for today's popular high-speed protocols

21 Display Port 1.2	21 HDMI 2.0	25 DVI-D Dual	21 DVI-D Single
15 SATA Gen 1, 2, and 3	15 USB 3.0 SuperSpeed	15 Up to: Cat 6A (10GBASE-T Ethernet)	31 Camera Link

PREWIRED PIGTAIL AND BACK-TO-BACK CABLES

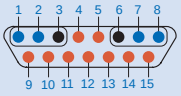


Turnkey, prewired plug and receptacle cable connectors are available as single-ended pigtails or back-to-back cable assemblies with pin or socket contacts per customer requirements. Shielded twisted pair 963-057-28 SpeedLine cable for differential data pairs is supplied in either 100 or 90 Ohms with a selection of jacketing and color. Discrete hookup wires may be specified in #28 or #30 gauge. Variable lengths of the assembly may be specified in 1 inch increments.

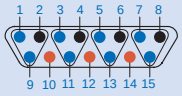
High-Speed Micro-D contact arrangements
face view pin connector

- high-speed signal pair
- signal-pair drain wire
- low-speed signal or power contacts

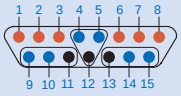
9 pin
(2 high-speed signal pairs)



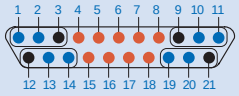
15 pin
(2 high-speed signal pairs)



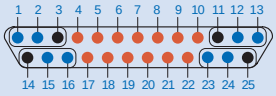
15E pin
up to 10GBASE-T Ethernet
(4 high-speed signal pairs)



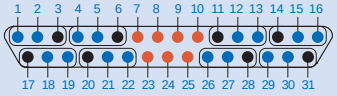
15U pin
USB 3.0
(3 high-speed signal pairs)



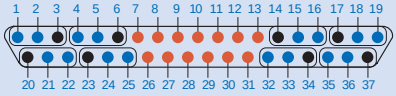
21 pin
(4 high-speed signal pairs)



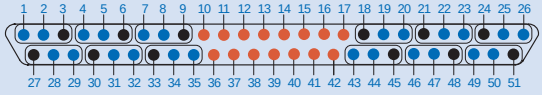
25 pin
(4 high-speed signal pairs)



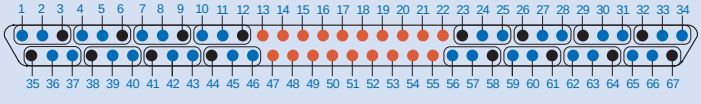
31 pin
(8 high-speed signal pairs)



37 pin
(8 high-speed signal pairs)



51 pin (special 2 row)
(12 high-speed signal pairs)



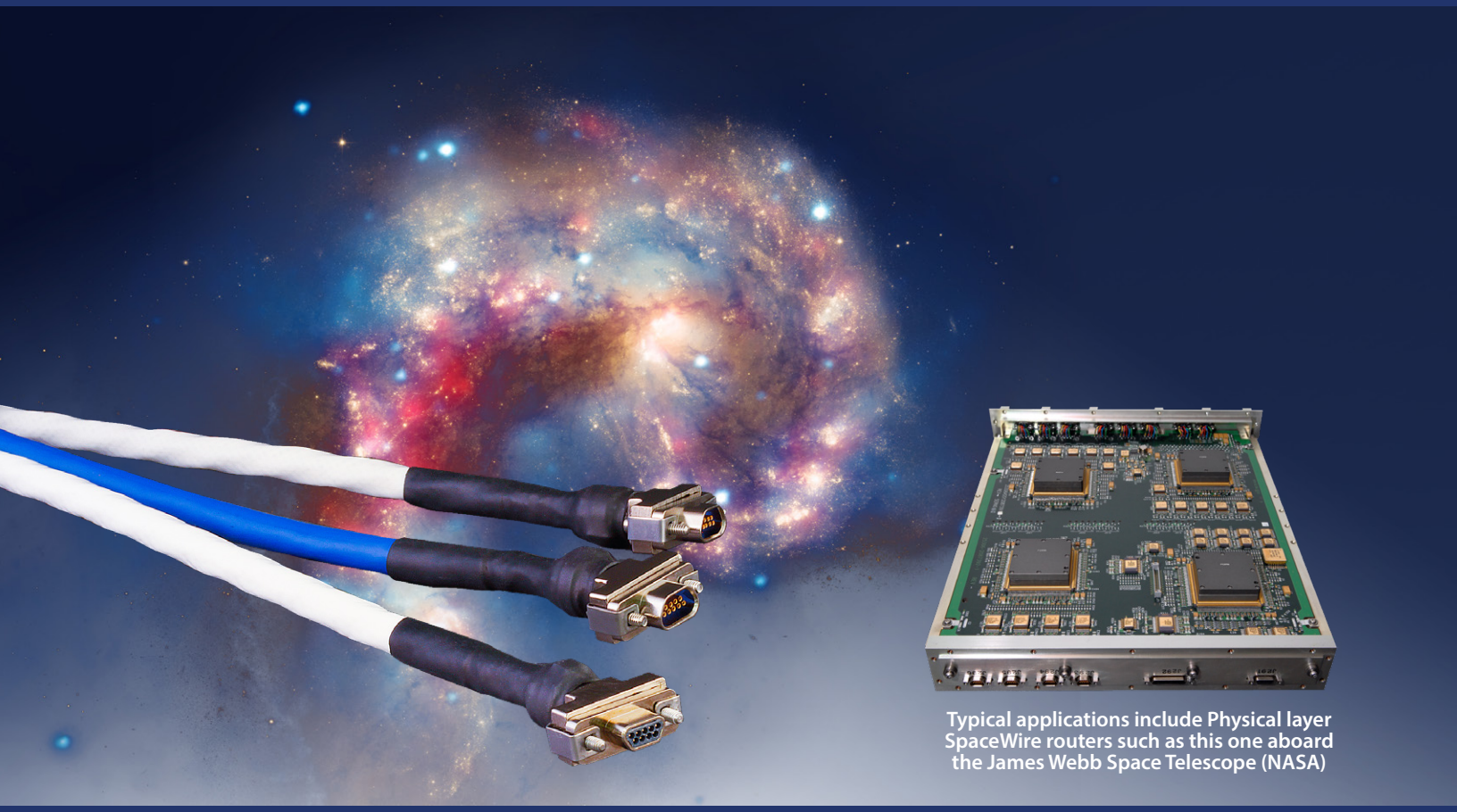
67 pin
(16 high-speed signal pairs)

M N O P Q R S T U V W X Y Z

OPTIMIZED
FOR USE WITH
MIL•STAR™
HIGH-PERFORMANCE HOOKUP WIRE AND CABLE

MICRO-D SpaceWire

Micro-D SpaceWire cable assemblies for IEEE 1355 space network applications



Typical applications include Physical layer SpaceWire routers such as this one aboard the James Webb Space Telescope (NASA)

Flight- and lab-grade SpaceWire qualified Micro-D cable assemblies for IEEE 1355 space network node interconnection of routers, switches, recorders, transceivers, and other physical layer devices

TYPICAL USES INCLUDE

- EGSE applications
- Radar sensor systems
- Hi-resolution camera equipment
- Sensor, mass-memory unit, and telemetry subsystem interconnections

APPROVED FOR USE BY:

- ESA
- NASA
- JAXA
- CSA
- TRL9

SPACEWIRE CABLE DESCRIPTION

- Laboratory and space-grade versions available
- Qualified MIL-DTL-83513 Micro-D connectors
- Gold-plated copper alloy TwistPin contacts
- Glenair MIL-STAR GS27500 cable, 4 twisted pairs with auxiliary ground wire
- Epoxy resin potting
- Fully-shrouded EMI banding backshell
- In-stock, same-day shipment availability

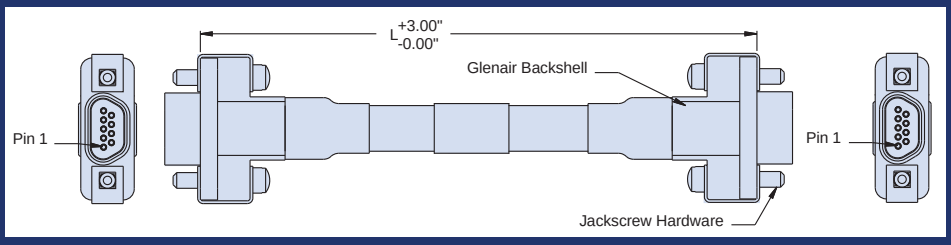
POINT-TO-POINT AND SINGLE-ENDED

Micro-D SpaceWire Cable Assemblies

Turnkey laboratory and flight-grade Micro-D cable assemblies

TECHNICAL READINESS LEVEL 9 MICRO-D SPACEWIRE ASSEMBLIES

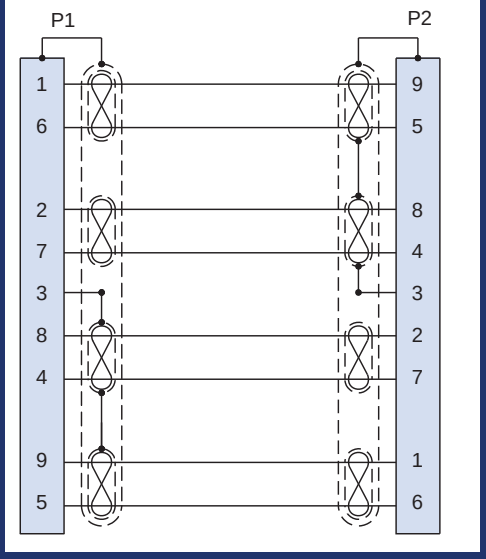
TRL 9 SPACE GRADE NASA·CSA ESA·JAXA SCREENED



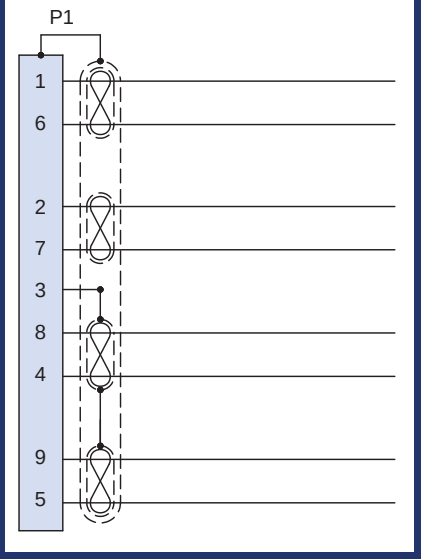
PERFORMANCE

- 3 Amps
- Temperature tolerance -200° to 180° C
- 100 Ω impedance shielded signal pair
- Very low skew, signal attenuation and crosstalk
- 65dB minimum attenuation shielding effectiveness
- Low magnetic permeability IAW EIA-364-54
- Dielectric withstanding voltage: 600 VAC
- Insulation resistance: 5000 megohms @500 VDC

Back To Back Wiring
Diagram (GP)



Single Ended Wiring
Diagram (P)



MATERIALS / FINISHES

- Connector shells and EMI backshells: aluminum alloy/electroless nickel
- Insulators: high grade rigid dielectric
- High vibration and shock resistant TwistPin Contacts: copper alloy, gold plated
- Hardware: passivated stainless steel

SINGLE- AND DOUBLE-ENDED ASSEMBLIES (FLIGHT GRADE TYPE F ASSEMBLIES SCREENED IAW NASA EEE-INST-002, TABLE 2)

Easy-to-Order
Single- and double-ended SpaceWire cable assemblies eliminate assembly time and labor. 100% tested and ready for use in laboratory and flight (Type F) applications.

High Performance MIL-STAR Cable
Expanded polytetrafluoroethylene (E-PTFE) allows for the support of LVDS technology to significantly reduce data loss while allowing for the implementation of standard hardware protocols.

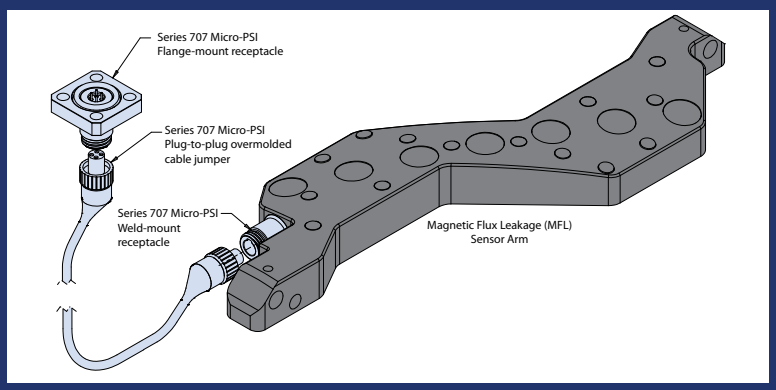
M N O P Q R S T U V W X Y Z

OPTIMIZED
FOR USE WITH
SeaKing
PRESSURE-RATED CABLES

MICRO-PSI™

Micro-PSI: 10K psi open-face micro miniature, high-speed ILI interconnects

The Series 707 Micro-PSI is a micro miniature 10K psi high-pressure, high-temperature interconnect designed specifically for pipeline inspection applications in Magnetic Flux Leakage and ultrasonic pipeline inspection PIGs. The Micro-PSI insert arrangements feature high-density micro TwistPin layouts for sensor applications and high-speed Gigabit Ethernet, and a coax contact layout for 3 GHz performance. Micro-PSI connectors are supplied as discrete plugs, or overmolded plug cordsets with rugged Viton or Polyurethane jacketing. Bulkhead and flange mount receptacles are 10K psi open-face pressure sealed, and incorporate fused vitreous glass inserts for <1X10^{-7} scc He/sec hermetic performance. Serviceable O-rings on plugs and face O-rings on receptacles provide high-reliability sealing.



Application example shows the 707 Micro-PSI used to interconnect an MFL sensor to on-board PIG data storage.

- **High-density, high-pressure, small form-factor interconnect, ideal for In Line Inspection (ILI) and pipeline PIG inspection tools**
- **10,000 psi pressure rated**
- **Less than 1 x 10^{-7} scc He/sec @ 1 ATM pressure differential**
- **Special-purpose high density (.056" contact spacing)**
- **3 GHz Coax contact arrangements**
- **2 Amp high-speed Gigabit Ethernet-ready**
- **-20° to +150°C temperature range**
- **Field-serviceable O-rings**

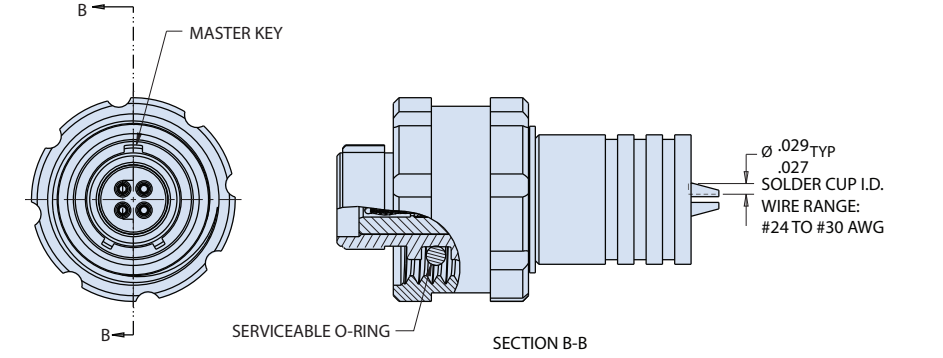
10K PSI

Micro-PSI Micro-Miniature High-Speed, High Pressure ILI Connector

High-density · life-of-system durability

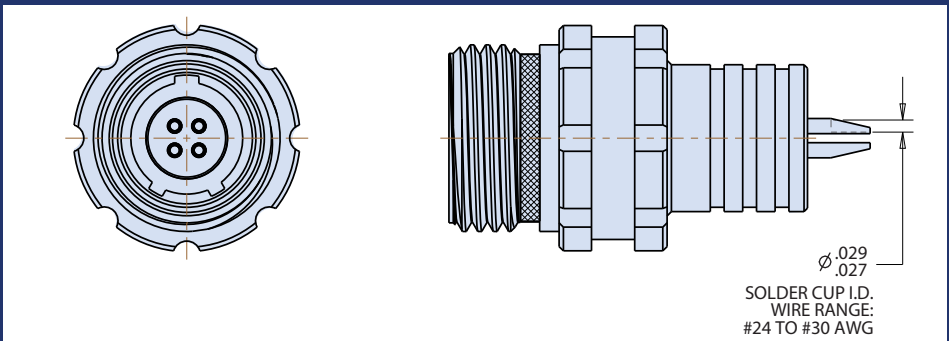
707-0264-1 MICRO-PSI ENVIRONMENTAL CABLE CONNECTOR PLUG

- Red alignment indicator for accurate mating
- Serviceable O-ring for reliable sealing and easy maintenance
- Mates with 707-0264-5 CCR, 707-0264-6 FCR and 707-0264-7 BCR



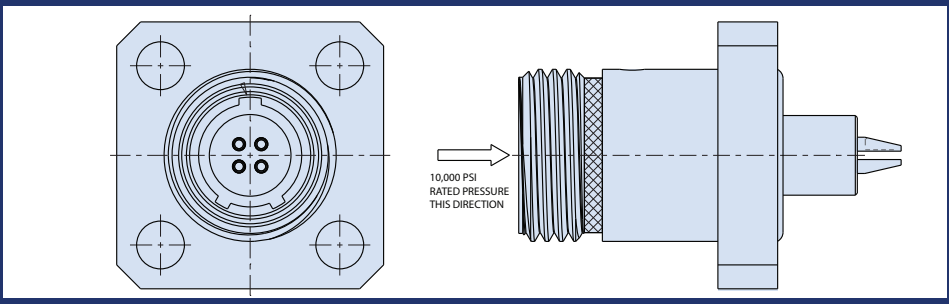
707-0264-5 MICRO-PSI HERMETIC CABLE CONNECTOR RECEPTACLE

- Operating temperature -20° to +150° C
- Alignment and full-mate indicators
- Flying lead option available
- Mates with 707-0264-1 CCP Plugs



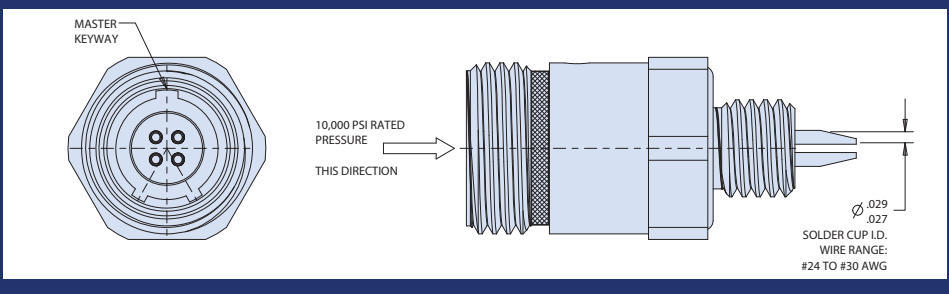
707-0264-6 MICRO-PSI HERMETIC FLANGE MOUNT RECEPTACLE

- Operating temperature -20° to +150° C
- Alignment and full-mate indicators
- Flying lead option available
- Mates with 707-0264-1 CCP Plugs



707-0264-7 MICRO-PSI HERMETIC BULKHEAD MOUNT RECEPTACLE

- Operating temperature -20° to +150°C
- Alignment and full-mate indicators
- Flying lead option available
- Mates with 707-0264-1 CCP Plugs



M N O P Q R S T U V W X Y Z

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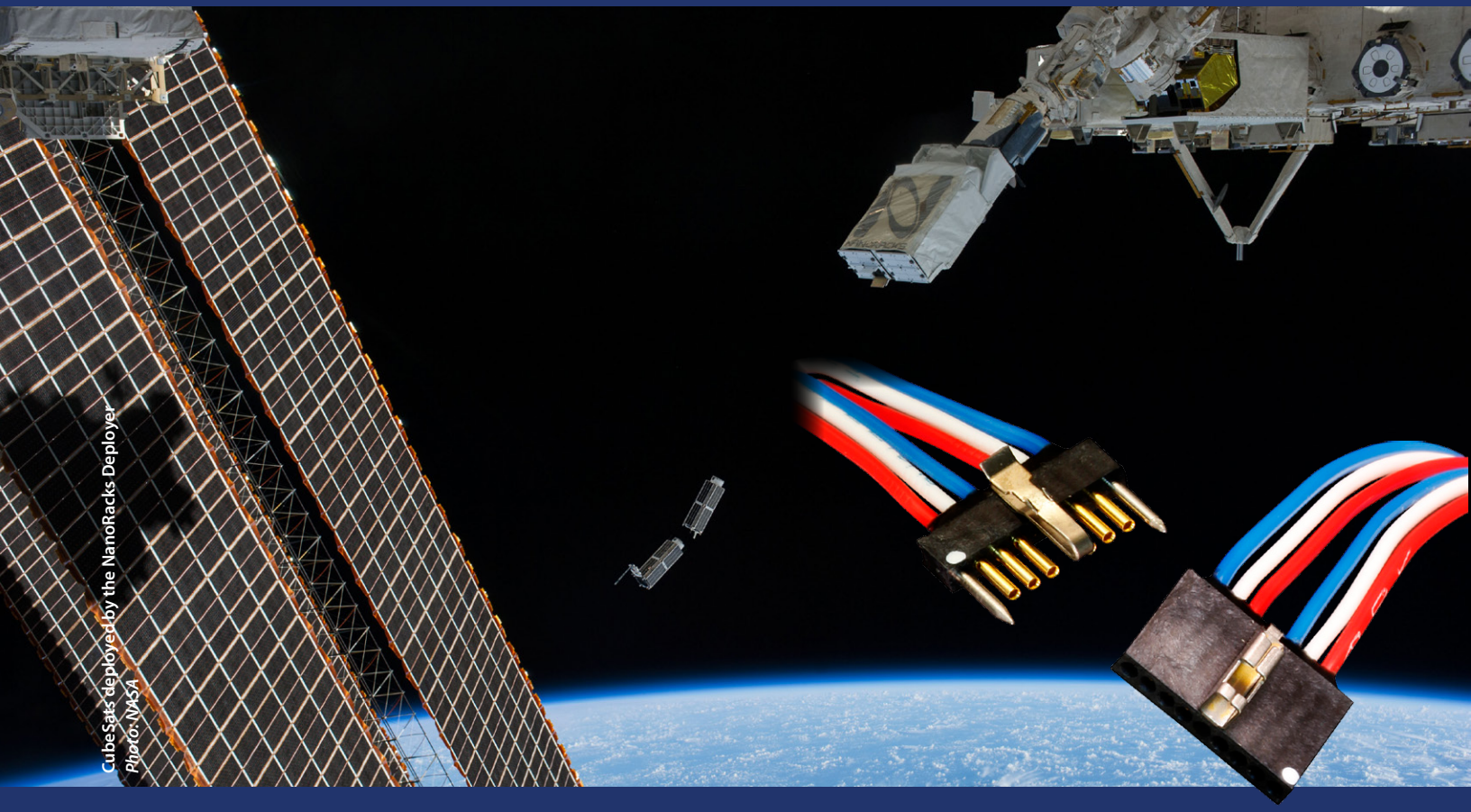
MICRO-D

MicroStrips: Latching wire-to-board and wire-to-wire Micro-D interconnects

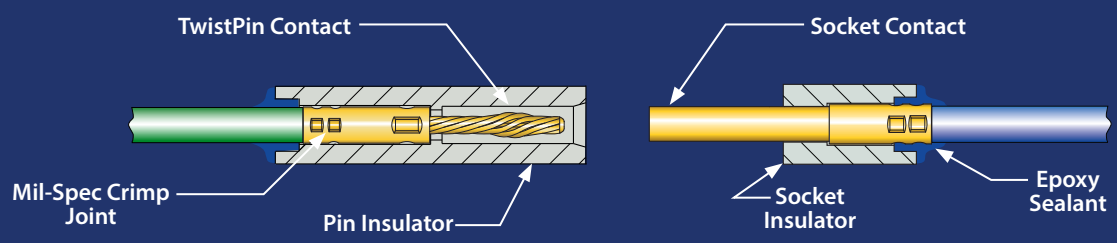


CubeSats deployed by the NanoRacks Deployer
Photo: NASA

TwistPin performance and durability in an economical, space-saving single-row package IAW MIL-DTL-83513

- High-reliability TwistPin contact system
- #24-30 AWG wire size
- .050" pitch contact spacing
- Solder cup, pre-wired or PCB header terminations
- 3 Amps, -55° to +150°C, 600 VAC

LATCHING MICROSTRIP CROSS-SECTIONAL VIEW



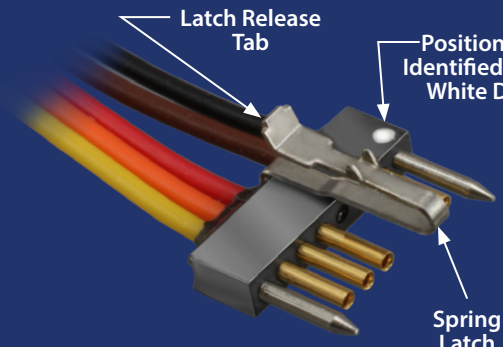
SERIES 171

MicroStrip Latching Micro-Ds

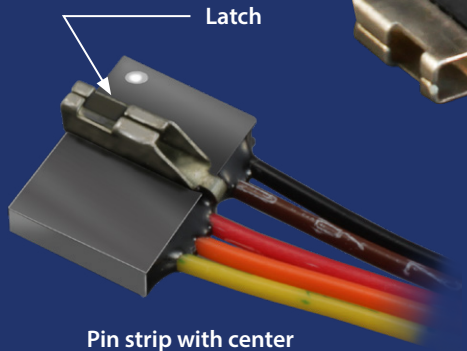
Superior TwistPin contact performance

ABOUT SPRING LATCHES, GUIDE PINS, AND MOUNTING HOLES

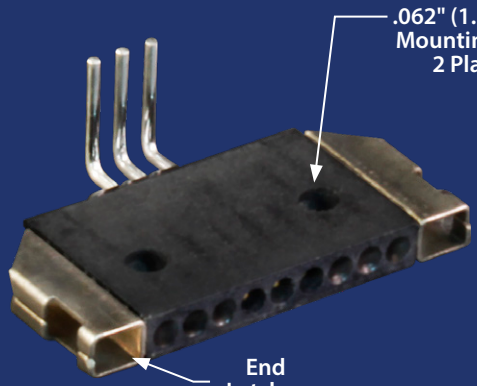
Optional stainless steel latch clips provide secure mating when subjected to shock and vibration. A single center latch is suitable for most applications. Dual end latches are also available. The spring latch is always installed on the socket strip. The latch receiver is installed on the pin strip. To unmate the connectors, simply press the release tab while pulling the connectors apart. MicroStrips are available with stainless steel guide pins.
A single guide pin provides circuit polarization. A guide pin on each end helps to align connectors when mating and prevents damage to contacts. For most applications the preferred configuration is a single center latch with no guide pins. Mounting holes are now available. Attach strips to circuit boards with size 0-80 screws (customer-supplied).



Socket strip with center latch



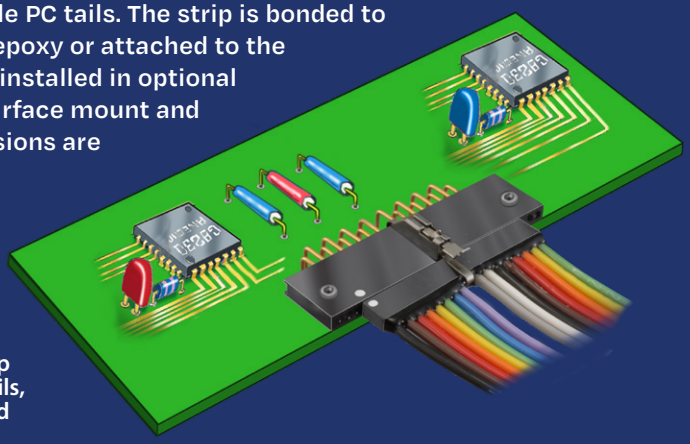
Pin strip with center latch and guide pins at both ends



Right Angle PCB Header with End Latches and Mounting Holes.

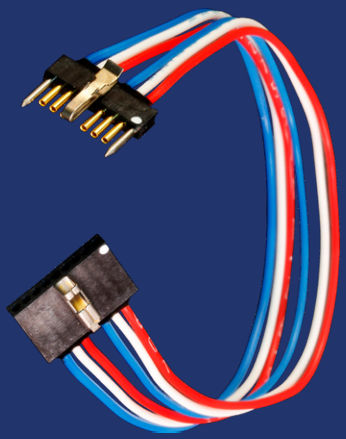
ABOUT BOARD MOUNT STRIPS

Space customers typically use MicroStrips for high reliability board-to-wire I/O applications. The pin strip is usually configured with right angle thru-hole PC tails. The strip is bonded to the PC board with epoxy or attached to the board with screws installed in optional mounting holes. Surface mount and vertical mount versions are also available.



Right angle pin strip with staggered pc tails, mounting holes and center latch

SINGLE ROW BACK-TO-BACK MICROSTRIPS



.050" pitch single row surface mount back-to-back microstrip

M N O P Q R S T U V W X Y Z

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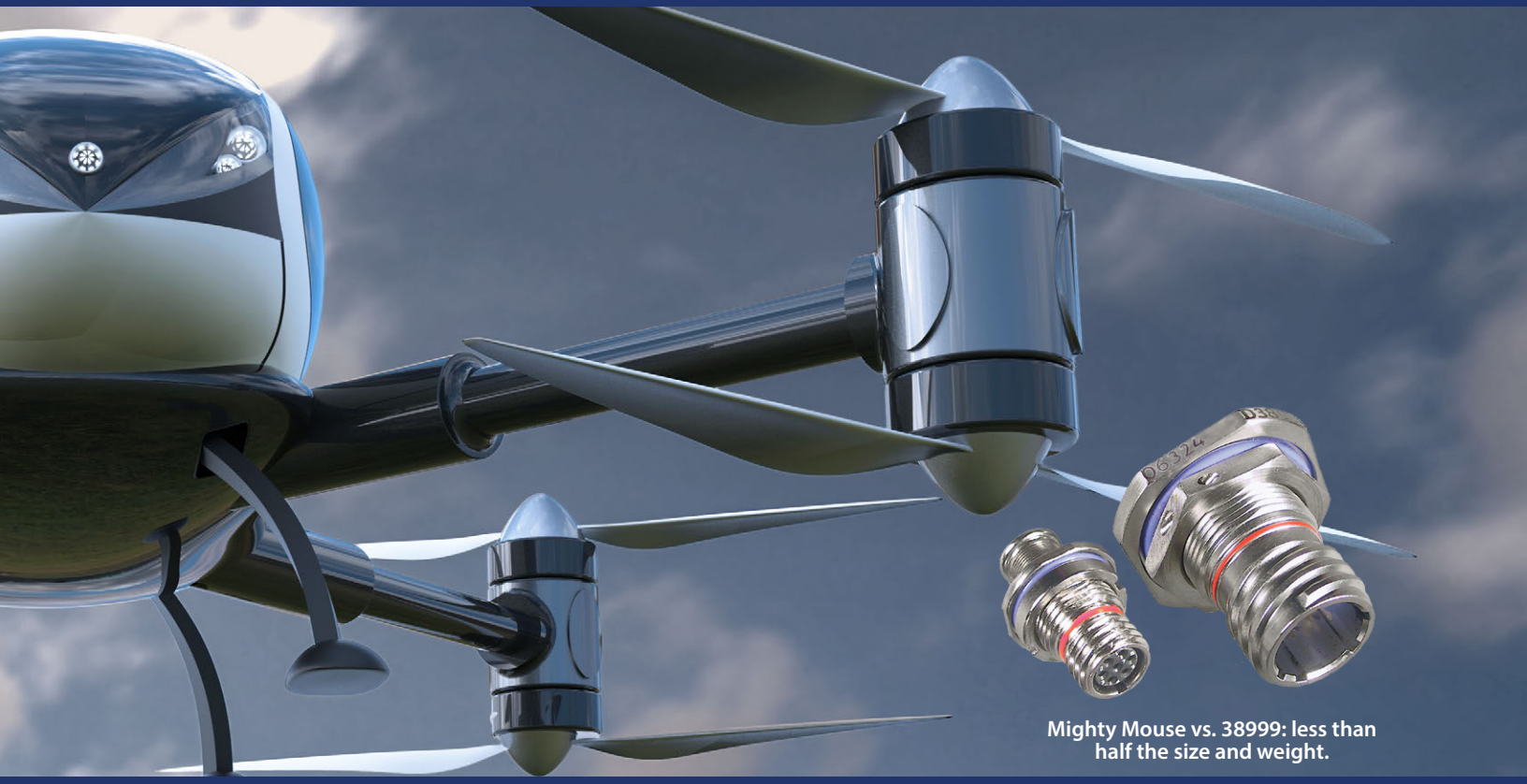
FOR USE WITH
MIL•STAR™
HIGH-PERFORMANCE HOOKUP WIRE AND CABLE

MIGHTY MOUSE

Mighty Nouse micro miniature connector series for optimized SWaP



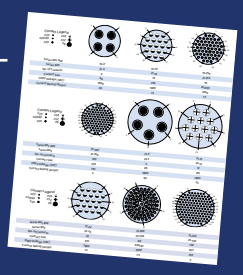
Mighty Mouse vs. 38999: less than half the size and weight.

Mighty Mouse connectors: reducing the size and weight of electrical wire interconnect systems since 1997

- 8 coupling styles and 67 contact arrangements from 1 – 130 contacts
- MIL-DTL-38999 caliber performance
- Size #23, #22, #20, #20HD, #16, #12, #8 signal, power, RF, and high-speed contacts
- Discrete connectors and turnkey cable assemblies

FULL RANGE OF SUPPORTED CONTACTS, 67 CONTACT ARRANGEMENTS

Signal | Power | High-Speed | RF / Microwave | Pneumatic



67 arrangements, from 1–130 contacts

GLENAIR SIGNATURE

Mighty Mouse Connectors and Cables

Awesome performance, itty-bitty package

CHOOSE FROM 8 DIFFERENT COUPLING DESIGNS

Series 800
UN thread

Series 801
double-start ACME thread

Series 802
AquaMouse UNEF thread

Series 803
bayonet coupling

Series 804
quick-disconnect

Series 824
locking quick-disconnect

Series 805
triple-start thread, size #23
contact layouts

Series 806
modified triple-start, size #22HD
and #20HD layouts

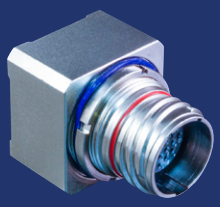
AVAILABLE MIGHTY MOUSE CONNECTOR CLASSES

IP67
environmental

Glass-to-metal seal
hermetic

CODE RED
Lightweight hermetic

EMI/RFI
Filter



EMP Transient Voltage
Suppression

Bulkhead feed-thrus and
penetrators

Sav-Con®
connector savers

High-frequency
RF / Microwave

High-speed
Ethernet

Single- and multimode
fiber optic

AVAILABLE NEXT-GENERATION TACTICAL CONNECTOR SERIES

Low-profile COBRA
right-angle

MouseBite spring-contact
series with thumb lock

STAR-PAN / Nett Warrior Series
7-pin 10 Amp USB-C

Mighty Mouse 3.2
USB-C Gen 1

OPTIMIZED
FOR USE WITH
MIL•STAR™
HIGH-PERFORMANCE HOOKUP WIRE AND CABLE

MIGHTY MOUSE

Mighty Mouse NG micro miniature nuclear-grade circular connectors

High-performance small form-factor connectors designed to meet Gen III global qualification requirements, including those requiring long-term submersion

- 3500 psi pressure rated
- Ultra miniature #23, #20, #20HD, #16, #12, #8 signal, power, fiber optic, and shielded contacts
- Discrete connectors and turnkey cable assemblies

Series 802 Mighty Mouse NG connectors are built to meet the latest severe nuclear industry application requirements, including long-term submersion, prolonged radiation, and 60-year installed life. The series is available in ten sizes from 1 to 130 contacts. These ultraminiature connectors (half the size and weight compared to standard nuclear-grade connectors) feature high-density inserts, 316 stainless steel shells, and a piston O-ring. Gold–plated crimp contacts accept #12 to #30 AWG wire. Connectors can be purchased prewired and potted for fast in-plant installation.

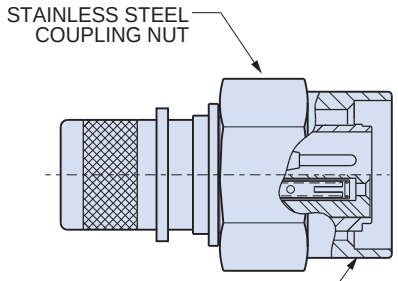
Custom high-pressure glass sealed and bulkhead feed-thrus available

NUCLEAR-GRADE QUICK-DISCONNECT

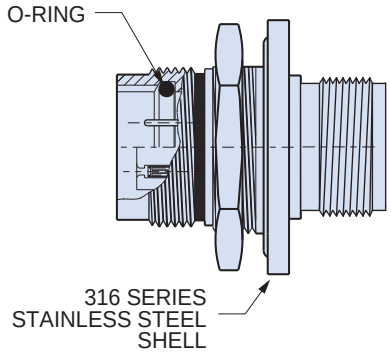
Mighty Mouse NG Micro Minature High-Pressure Circular Connectors

For stringent containment area (Zone 1E) applications

GLENAIR MIGHTY MOUSE NG DELIVERS HIGH-PRESSURE SEALING AND RUGGED DESIGN IN A MINIATURE PACKAGE



Mighty Mouse NG Plug



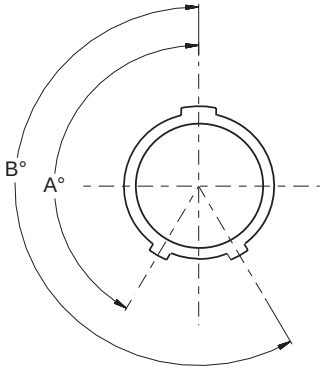
Mighty Mouse NG Receptacle

Stainless Steel
Available in ten sizes from 1 to 130 contacts, Series 802 connectors feature 316 stainless steel shells.

3500 psi
These connectors withstand up to 3500 psi hydrostatic pressure in a mated condition. Potted versions withstand 1000 psi open face pressure.

MIGHTY MOUSE NG SPECIFICATIONS AND PLUG KEY POSITIONS

PLUG KEY POSITIONS



Key Position	Key Rotation	
	A°	B°
Normal (A)	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°
E	75°	275°
F	9°	210°

PERFORMANCE SPECIFICATIONS	
Current Rating	#23–5 A, #20–7.5 A, #16–13 A, #12–23 A
Dielectric Withstanding Voltage	#23–750 VAC, #20HD–1000VAC, #16 and #12–1800 VAC
Insulation Resistance	5000 megohms minimum
Operating Temperature	-65° C. to +175° C.
Hydrostatic Pressure	3500 psi mated, 1000 psi open face (hermetic)
Shock	300 g.
Vibration	37 g.
Durability	2000 mating cycles

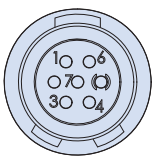
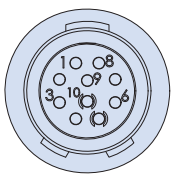
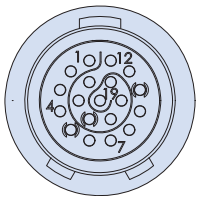
MATERIAL AND FINISH	
Shells, Jam Nuts, Coupling Nuts	316 stainless steel
Contacts	Copper alloy, 50 µInch gold plated. Socket hood: stainless steel, passivated. Hermetic pin contacts: Nickel-Iron alloy per ASTM-F-30, 50 µInch gold plated.
Contact Retention Clip	Beryllium copper alloy

OPTIMIZED
FOR USE WITH
MIL•STAR™
HIGH-PERFORMANCE HOOKUP WIRE AND CABLE

MIGHTY MOUSE
SERIES 86 SEALTAC™

Mighty mouse SealTac™ spring contact push-pull connectors and jumpers

The Mighty Mouse Series 86 SealTac is a durable, environmentally-sealed push-pull connector with outstanding user ergonomics. Receptacle target-contact designs are fully sealed, easy to maintain and clean, and immersible to 30 psi / IP68 in the unmated condition. Spring pin contacts (plug side) are rated to 2 Amps and can withstand virtually unlimited mating cycles.

SHELL SIZE / CONTACT ARRANGEMENTS		
		
06-7 shell size 6, 7 contacts	07-10 shell size 7, 10 contacts	08-19 shell size 8, 19 contacts

- **High-durability unlimited life-cycle performance**
- **30 psi open-face / IP68-level sealing (box side)**
- **Ergonomic keyed push-pull mating**
- **High-density micro miniature form factor**
- **Maintenance-free spring contact inserts**
- **Integrated EMI/RFI ground spring and shield termination band porch**
- **High vibration and shock resistant**
- **Full qualification testing complete and available**

SERIES 86

Mighty Mouse SealTac Tactical Push-Pull Connectors

Spring-pin equipped · harsh-environmental

SERIES 86 SEALTAC APPLICATIONS

C4ISR soldier devices


Rugged computers and hand-helds


Power and data hubs


Tactical communications gear


Helmet quick-disconnects

CONNECTOR SELECTION GUIDE

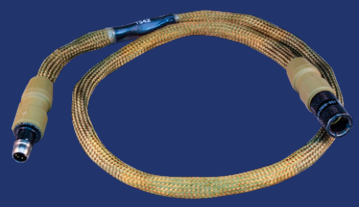
IN-LINE RECEPTACLES		**860-051-01** Series 86 spring contact push-pull in-line receptacle for cable applications
IN-LINE PLUG		**860-050-06** Series 86 target contact push-pull in-line cable plug
JAM-NUT PLUG		**860-050-07** Series 86 target contact push-pull jam-nut mount plug
CABLE JUMPER Receptacle-to-receptacle		**861-001** Series 86 spring contact push-pull receptacle-to-receptacle overmolded cable jumper
CABLE JUMPER Plug-to-plug		**861-002** Series 86 target contact push-pull plug-to-plug overmolded cable jumper
CABLE JUMPER High-speed HDMI		**861-003** Series 86 target contact push-pull plug or spring contact push-pull receptacle-to-HDMI overmolded cable jumper
CABLE JUMPER High-speed USB 3.0		**861-004** Series 86 target contact push-pull plug or spring contact push-pull receptacle-to-USB 3.0 overmolded cable jumper

SERIES 86 SEALTAC™ PERFORMANCE SUMMARY		
	Performance	Specification
DWV	500 Vac	EIA 364-20
IR	5 GΩ, 200 Vdc	EIA 364-21
Temperature Range	-55°C / +125°C	
Contact Ω	40 mΩ	EIA-364-23 (26 AWG wire included)
Durability	2500 cycles min	EIA-364-09
Mating Force	8 lbs (size 06) 12 lbs (size 08)	EIA-364-13
Random Vibration		MIL-STD-810H, method 514.8, Annex E, figure 514.8E-1. One hour each axis, longitudinal and perpendicular axes
Shock		Mil-Std-810, method 516, Procedure I (40 G's, 11ms). 3 shocks X 3 axes X 2 directions = 18 shocks
Water Immersion	30 psi, 30 minutes, 100 MΩ min	EIA 364-21, mated and unmated (open face)

Mighty Mouse Tactical Cable Assemblies

STAR-PAN+™, STAR-PAN X™, and STAR-PAN NG™ compatible

GENERAL-PURPOSE STAR-PAN™ SYSTEM CABLES



Nett Warrior (C1) extension cable

2-port hub expansion cable

Radio port-to-PAN port adapter cable

STAR-PAN™ PERIPHERAL DEVICE CABLES

TacROVER-P SIR 2.5 video cable

Radio adapter cable for STAR-PAN IV

PAN port to USB-A adapter cable

DAGR GPS and micro DAGR-V cable

TacROVER-P SIR 2.0 cable

PLRF-15C/25C laser range finder cable

STAR-PAN™ RADIO DATA / POWER CABLES AND ADAPTERS

RT-1922 Microlight SADL radio Cable

AN/PRC-117G radio cable

AN/PRC-161 BATS-D radio adapter

AN/PRC-148 radio adapter

AN/PRC-152A radio adapter

Harris RF-7850M sync serial adapter

SMALL FORM-FACTOR

Mighty Mouse Tactical Cable Assemblies

With Series 807 Mighty Mouse NW push-pull connectors
NWPAN-WP-20210223 approved · NATO STANAG 4695 interoperable

HARSH ENVIRONMENT OVERMOLDED

Overmolded breakout assembly featuring 100% Glenair content; a true turnkey solution

Multibranch cable assembly with Glenair Mighty Mouse, HiPer-D M24308 and customer-supplied power connector

Turnkey overmolded GPS cable assembly with integrated switch

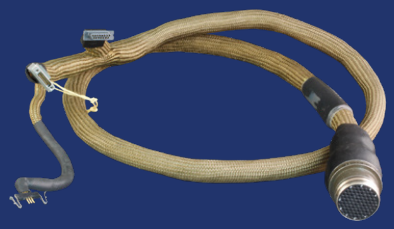
Environmental cable with Glenair Series 804 Mighty Mouse, Series 79, and RF Coax terminations

ULTRAFLEXIBLE FABRIC OVERBRAID

Non-environmental aircraft cable with integrated circuit breakout box and Mighty Mouse 807 push-pull connectors

Heads-up display (HUD) cable with custom Series 807 Mighty Mouse and low-profile cable routing

Military jet jumper cable with user-serviceable backshells and fabric overbraid for mechanical protection



Hybrid Mighty Mouse and Micro-D aircraft pilot helmet cable assembly

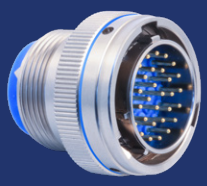
OPTIMIZED
FOR USE WITH
MIL-STAR™
HIGH-PERFORMANCE HOOKUP WIRE AND CABLE

MIL-DTL-26482 Series 2 QPL pending

MIL-DTL-26482 Series 2 type rugged bayonet-coupling crimp-contact connectors

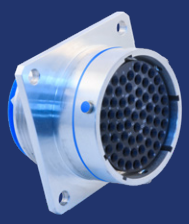
Threaded connector accessory interface and wire sealing grommet standard. Glenair signature integrated band porch versions also available.

- For rugged military and industrial applications that require quick mate/demate three-point bayonet-lock coupling.
- Glenair 26482 Series 2-style connectors offer high-performance plating options unavailable in standard mil-spec parts including TZ Tin-Zinc, our recommended RoHS-material AMS2434 Type 2 qualified cadmium-compatible replacement, ZR black zinc-nickel, and Z1 passivated stainless steel.
- Complete range of tooled MIL-STD-1669 insert arrangements for size #20, #16, and #12 signal and power crimp, rear-release contacts. The Glenair solution offers three shell size 8 arrangements not available in the mil-spec version.
- Available integrated cable-shield banding porch option as well as PCB versions with rugged threaded standoffs for secure circuit board attachment.

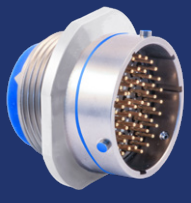


Plug connectors

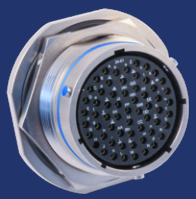
Narrow-flange wall-mount receptacles



Wide-flange wall-mount receptacles



Cable-connecting receptacles



Jam-nut receptacles

CRIMP-CONTACT

MIL-DTL-26482 Series 2 Bayonet-Lock Connectors

Glenair signature and QPL designs (pending)

COUPLING TORQUE		
Shell Size	Torque	
	Maximum engagement and disengagement	Minimum disengagement
8	8 (.904 N-m)	1 (.113 N-m)
10	10 (1.13 N-m)	1 (.113 N-m)
12	14 (1.58 N-m)	2 (.226 N-m)
14	17 (1.92 N-m)	4 (.452 N-m)
16	23 (2.60 N-m)	4 (.452 N-m)
18	26 (2.94 N-m)	4 (.452 N-m)
20	31 (3.50 N-m)	6 (.678 N-m)
22	38 (4.29 N-m)	7 (.791 N-m)
24	38 (4.29 N-m)	7 (.791 N-m)

DIELECTRIC WITHSTANDING VOLTAGE		
Altitude (ft.)	Minimum Test Voltages, AC (RMS)	
	Service Rating I	Service Rating II
Sea Level	1,500	2,300
50,000	500	750
70,000	375	500
110,000	200	200

WORKING VOLTAGE, AC, RMS		
Condition	Service Rating I	Service Rating II
Sea Level	600	1,000
70,000 ft.	600	450

MATERIAL AND FINISH OPTIONS

	Glenair code	Material	Finish	Finish Specification	Salt Spray Hrs.	Electrical Conductivity	Operating Temp. Range	RoHS Materials	Notes
Glenair COTS Code	AB	Marine Bronze	Unplated	AMS4640 alloy, unplated	1000	Conductive	-65° to +200°C	✓	Marine and geo-physical applications
	ME	Aluminum	Electroless Nickel	AMS-C-26074, Grade A; ASTM B733, SC 3	96	Conductive	-65° to +200°C	✓	Glenair's standard high-build electroless Nickel finish.
	NF	Aluminum	Cadmium, Olive Drab	AMS-QQ-P-416, Type II, Class 2, over electroless Nickel	500	Conductive	-65° to +175°C		Glenair's standard olive drab Cadmium finish.
	TZ	Aluminum	Tin-Zinc, Green-Gold	AMS2434, Type 2, over electroless Nickel	500	Conductive	-65° to +175°C	✓	Glenair's recommended Cadmium-compatible replacement.
	ZR	Aluminum	Zinc-Nickel, Black	ASTM B841, over electroless Nickel	500	Conductive	-65° to +175°C	✓	Glenair's standard black Zinc-Nickel finish.
	Z1	Stainless Steel	Passivate		48	Conductive	-55° to +200°C	✓	Passivated stainless steel

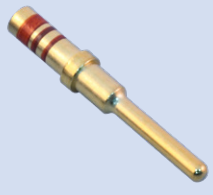
Consult Glenair for other material / finish options

MIL-SPEC CRIMP CONTACTS FOR GLENAIR SERIES 260-002 M26482 TYPE CONNECTORS

Glenair Series 260-002 MIL-DTL-26482 Series 2 type connectors are supplied with contacts (including spares), insertion / removal tool, and sealing plugs. Connectors may also be ordered without contacts. Additional contacts, insertion/removal tools, crimp tools, and positioners may be ordered using the part numbers on this page:

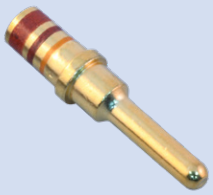
M39029/4-110
Size 20
pin contact

M39029/5-115
Size 20
socket contact

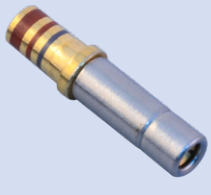


M39029/4-111
Size 16
pin contact

M39029/5-116
Size 16
socket contact



M39029/4-113
Size 12
pin contact



M39029/5-118
Size 12
socket contact

M N O P Q R S T U V W X Y Z

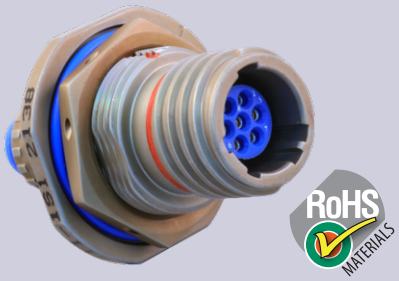
OPTIMIZED
FOR USE WITH
MIL•STAR™
HIGH-PERFORMANCE HOOKUP WIRE AND CABLE

MIL-DTL-28840 qualified connectors and accessories: every slash sheet, no gaps

- All sizes and platings in-stock and ready for immediate shipment
- High density, scoop proof contact arrangements
- Flange mount, box mount, jam-nut and in-line receptacles
- Straight, 45°, and 90° strain reliefs and backshell assemblies
- Sav-Con® connector savers and bulkhead feedthrus
- Contact and connector assembly tools

MIL-DTL-28840 qualified connectors and accessories. Splined connector-to-backshell interface is ideally suited for heavy backshells and cables.

QUALIFIED CADMIUM-FREE AND COMPATIBLE TIN-ZINC (TZ) PLATING FOR CLASS CODE L AND M (CLASS T AND TJ) NAVY LAND AND MARITIME APPLICATIONS.



L - Class T: Aluminum, Tin-Zinc Plate over Electroless Nickel, Non-Reflective

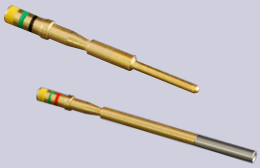
- New DLA-qualified replacement for cadmium
- High conductivity and shielding performance in harsh maritime conditions
- High corrosion resistance
- Compatibility with legacy cadmium-plated connectors and environmental shrink boots
- RoHS-compliant material
- Test reports available upon request

SHIPBOARD

MIL-DTL-28840 Connectors and Accessories

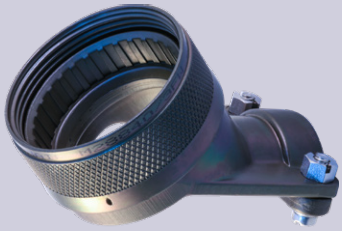
With in-stock same-day availability

MIL-DTL-28840 • FULLY-QUALIFIED • EVERY SLASH SHEET • NO GAPS • IN-STOCK AVAILABILITY



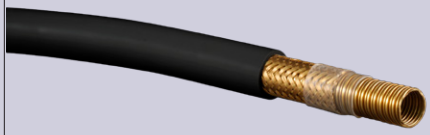
Contacts

M39029/83 pin and /84 socket



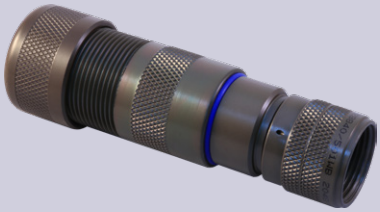
Clamps

M28840/1 straight
M28840/2 90°
M28840/3 45°



Conduit

M28840/4 Metal-Core



Conduit Fittings

M28840/5 Backshell for Metal Core Conduit
M28840/6 EMI/RFI Environmental Backshell
M28840/25 90° EMI Conduit Adapter
M28840/27 45° EMI Conduit Adapter
M28840/30 Metal Conduit Coupler, Styles A and B
M28840/22 Metal Conduit Bushing
M28840/23 "E Nut"

Backshells

M28840/8 90° EMI/RFI Environmental
M28840/ 45° EMI/RFI Environmental Backshell

Connectors

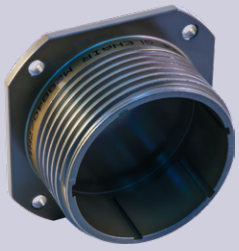
M28840/10 Wall Mount Receptacle Connector
M28840/11 In-Line Receptacle Connector
M28840/12 Box Mount Receptacle Connector
M28840/14 Jam Nut Mount Receptacle Connector
M28840/16 Plug Connector

Connector / Backshell Assemblies

M28840/17 Plug Connector / Straight Strain Relief
M28840/18 Plug Connector with 90° Strain Relief
M28840/19 Plug Connector with 45° Strain Relief
M28840/20 Recept., Straight EMI/RFI Backshell
M28840/21 In-Line Recpt., St. EMI/RFI Backshell
M28840/26 Plug, with Straight EMI/RFI Backshell
M28840/28 90° Adapter Assembly Plug
M28840/29 Plug with 45° EMI/RFI Backshell

Protective Covers

M28840/13 Protective Receptacle Cover
M28840/15 Protective Plug Cover



Tools and Accessories

M28840/7 Dummy Stowage Receptacle
M28840/24 Mounting Gasket

M N O P Q R S T U V W X Y Z

OPTIMIZED
FOR USE WITH
MIL•STAR™
HIGH-PERFORMANCE HOOKUP WIRE AND CABLE

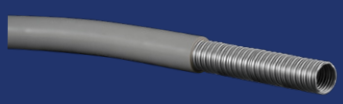
NAVSEA qualified

MIL-PRF-24758A NAVSEA-approved helical metal-core conduit for above- and below-deck shipboard wire routing applications

Improved sealing and shielding: the ultimate in highly flexible, crush-proof EMI/EMP wire protection

- **Hermetically sealed, flexible metal-core conduit for shipboard wire interconnect applications**
- **UV-resistant "BlueJacket" jacketing over brass, stainless steel, or nickel iron alloy conduit**
- **Turnkey, factory-terminated assemblies for fast-turnaround dockside maintenance cycles**
- **All materials deliver superior EMC performance as well as crush resistance and environmental sealing compared to legacy systems**

750-098 · FOR SUPERIOR CRUSH RESISTANCE AND CORROSION PROTECTION



Highly flexible crush-proof metal conduit in stainless steel with Viton, Neoprene, or BlueJacket protective covering

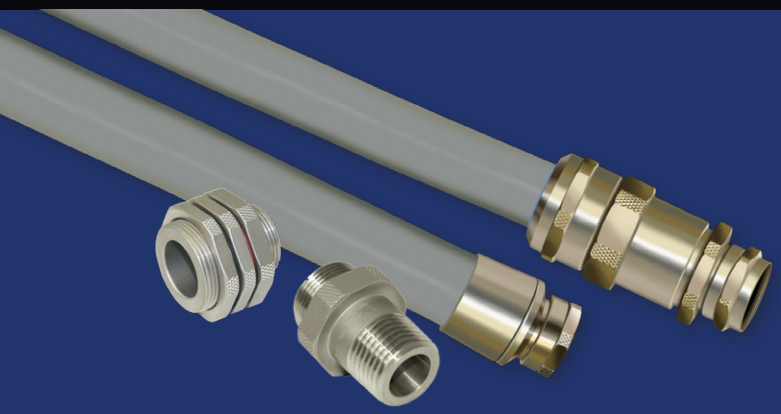
750-192 · FOR LOW-FREQUENCY EMI PROTECTION AROUND MOTORS AND CONTROL EQUIPMENT

Nickel-iron conduit material plus shielding and jacketing

NAVSEA-APPROVED

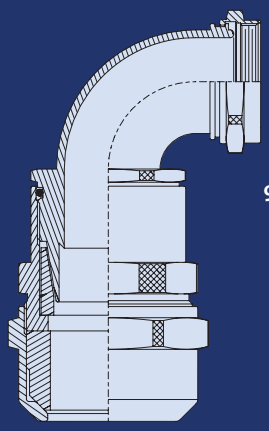
MIL-PRF-24758A Metal-Core Conduit Wire Protection Systems

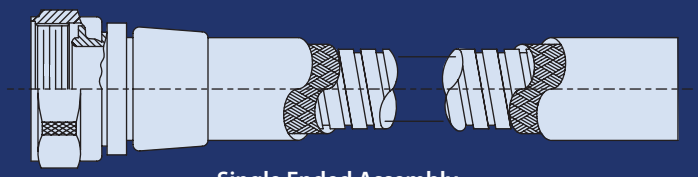
Brass, CRES, and nickel-iron, with Glenair signature "BlueJacket" jacketing



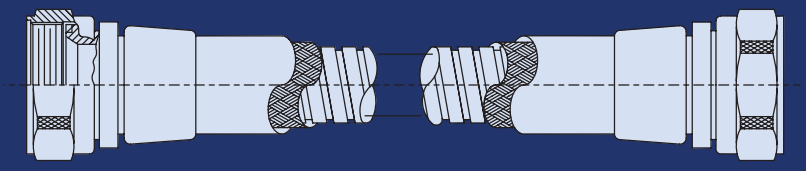
- **Qualified to MIL-PRF-24758A(SH)**
- **User-installable and factory terminated configurations**
- **Innovative fitting design with advanced environmental sealing, EMI shield termination and rotatable coupling nut**
- **Adapters for all shipboard interfaces—fully compatible with legacy MIL-C-24758 conduit systems**

Do it once, do it right with Glenair Signature MIL-PRF-24758A wire protection conduit systems



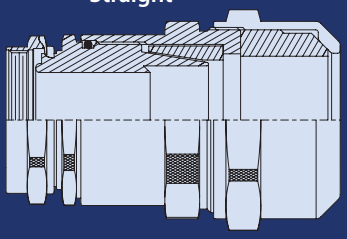


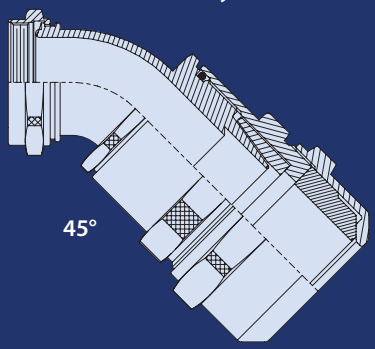
Single Ended Assembly



Double Ended Assembly

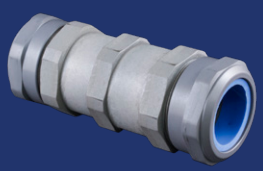
Straight





MIL-PRF-24758A Configuration Options: Choose from high-performance user-installable fittings or lighter-weight factory terminated assemblies

FITTINGS AND ADAPTERS FOR USER-INSTALLED APPLICATIONS



Composite conduit splice fitting

Stainless steel conduit feed-thru fitting

Low-Profile RP Plus System

Heavy-duty environmental conduit-to-panel fitting

Heavy-duty environmental conduit-to-connector fitting

M N O P Q R S T U V W X Y Z

MIL-STAR™

GS22759 AEROSPACE-GRADE WIRE

MIL-STAR High-Performance Hookup Wire and Cable Glenair has branded its GS22759 high-temperature aerospace-grade wire and GS27500 multi-conductor cables for aerospace applications, under the MIL-STAR brand. These discrete wires and cables are built in accordance with SAE specifications with a "GS" leadoff in place of both the base specification and the part number for individual slash sheets.

MIL-STAR is a high-performance, better-than-QPL discrete wire and cable specification unique to Glenair. The brand covers both protected (inside-the-box) hookup wire, high-durability open-loom wiring, and multi-conductor shielded and jacketed M27500-type cable.

M22759 single-ended hook-up wires are the industry standard for inside-the-box mil-aero environments and are optimized for size, weight, high-temperature resistance, and low flame propagation. The hundred-plus variants of AS22759 are organized by conductor material and plating, insulation type, wire gage, and single- or dual-wall.

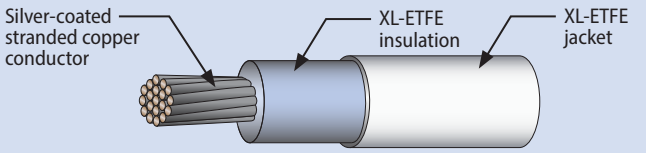
MIL-STAR™ 22759 OPEN WIRE LOOM AND (PROTECTED) HOOKUP WIRES

AS22759 high-temp single-conductor 600V military and aerospace-grade wire, standard and crosslinked, lightweight single-wall and rugged dual-wall configurations.

CROSSLINKED (XL) ETFE

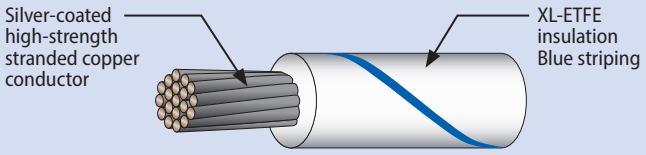
GS22759-43

- Silver-coated copper core, std. weight dual wall XL-ETFE insulation/jacket. High-temp, radiation- and fire-resistant.



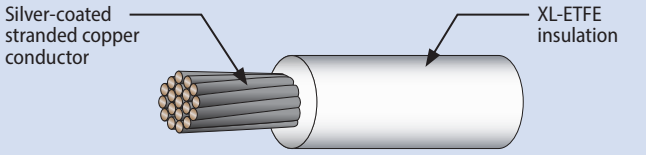
GS22759-33

- Silver-coated copper core with XL-ETFE insulation (blue striping). High-temp, low flammability.



GS22759-47

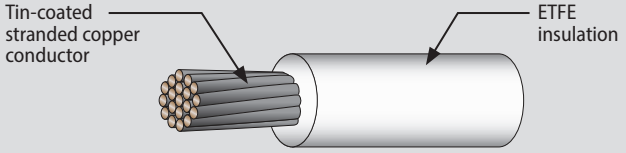
- Silver-coated high-strength copper core, XL-ETFE insulation. Low-fluoride, ideal for space applications.



CONVENTIONAL FLUOROPOLYMER (ETFE, PTFE)

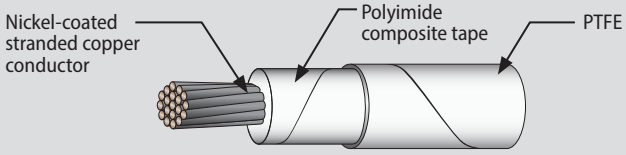
GS22759-16

- Tin-coated copper core with extruded ETFE insulation. Radiation-resistant and temperature tolerant to 150°C.



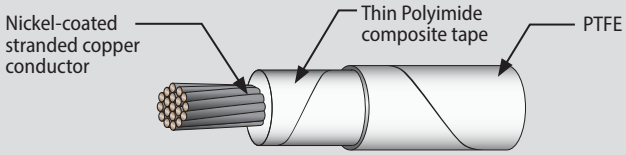
GS22759-87 (Standard weight)

- Nickel-coated copper, PTFE/Polyimide tape-wrapped. High-temp (260°C), fire and chemical-resistant, low smoke.



GS22759-92 (Light weight)

- Nickel-coated copper, PTFE/thin-wall Polyimide tape-wrapped. High-temp (260°C), fire and chemical-resistant, low smoke.



BETTER-THAN-QPL

MIL-STAR Hookup Wire for Aerospace-Grade Harness Assemblies

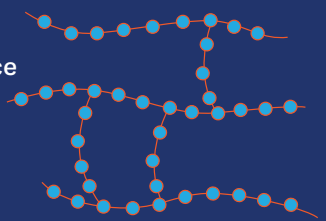
IAW MS22759 batch testing and documentation

MIL-STAR™ ORDER NUMBER	CONDUCTOR	PLATING	INSULATION	INSULATION WEIGHT	AVAILABLE WIRE SIZES	TEMPERATURE RATING
SAE AS22759/16-19, ETFE						
GS22759-16	Copper	Tin	ETFE	Medium	24, 22, 20, 18, 16, 14, 12, 10, 8	150°C
GS22759-17	High-Strength Copper Alloy	Silver	ETFE	Medium	26, 24, 22, 20	150°C
GS22759-18	Copper	Tin	ETFE	Light	24, 22, 20, 18, 16, 14, 12, 10	150°C
GS22759-19	High-Strength Copper Alloy	Silver	ETFE	Light	26, 24, 22, 20	150°C
SAE AS22759/32-35, XL-ETFE						
GS22759-32	Copper	Tin	XL-ETFE	Light	30, 28, 26, 24, 22, 20, 18, 16, 14, 12	150°C
GS22759-33	High-Strength Copper Alloy	Silver	XL-ETFE	Light	30, 28, 26, 24, 22, 20	200°C
GS22759-34	Copper	Tin	XL-ETFE	Normal (Dual Wall)	24, 22, 20, 18, 16, 14, 12, 10, 8	150°C
GS22759-35	High-Strength Copper Alloy	Silver	XL-ETFE	Normal (Dual Wall)	26, 24, 22, 20	200°C
SAE AS22759/41-47, XL-ETFE						
GS22759-41	Copper	Nickel	XL-ETFE	Normal (Dual Wall)	26, 24, 22, 20, 18, 16, 14, 12, 10, 8	200°C
GS22759-42	High-Strength Copper Alloy	Nickel	XL-ETFE	Normal (Dual Wall)	26, 24, 22, 20	200°C
GS22759-43	Copper	Silver	XL-ETFE	Normal (Dual Wall)	26, 24, 22, 20, 18, 16, 14, 12, 10, 8	200°C
GS22759-44	Copper	Silver	XL-ETFE	Light	28, 26, 24, 22, 20, 18, 16, 14, 12	200°C
GS22759-45	Copper	Nickel	XL-ETFE	Light	28, 26, 24, 22, 20, 18, 16, 14, 12	200°C
GS22759-46	High-Strength Copper Alloy	Nickel	XL-ETFE	Light	28, 26, 24, 22, 20	200°C
GS22759-47	High-Strength Copper Alloy	Silver	XL-ETFE Low-fluouride	Light	28, 26, 24, 22, 20	200°C

CROSS-LINKED ETFE INSULATION

Cross-linked insulation (XL) and standard insulation are two types of dielectric materials used in wire and cable manufacturing. Cross-linking provides the following advantages:

- **Improved thermal stability**
- **Chemical / solvent resistance**
- **Increased mechanical strength**
- **Laser-markable**
- **Longer service life**



RED PLAGUE MITIGATION

Mod Code 1304B
RED PLAGUE MITIGATION

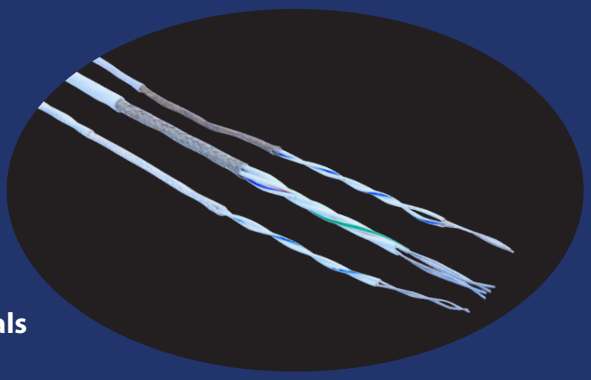
Glenair MIL-STAR™ high-temperature hookup wire and cable may be supplied in special 80 microinch silver-plated copper Mod Code configurations (1304A or 1304B) to combat Red Plague corrosion, a pernicious form of copper oxidation that results in the formation of red cuprous oxide (Cu_2O) and black cupric oxide (CuO). Red Plague corrosion can continue indefinitely, consuming conductor material and causing electrical system failures.

M N O P Q R S T U V W X Y Z

MIL-STAR™

GS27500 MULTI-CONDUCTOR CABLE

Glenair MIL-STAR multi-conductor 27500 type cables are built from in-house manufactured GS22759 hookup wire, available with industry qualification as well as Glenair GS signature part numbering. GS27500 constructions for shielded and unshielded cable are:



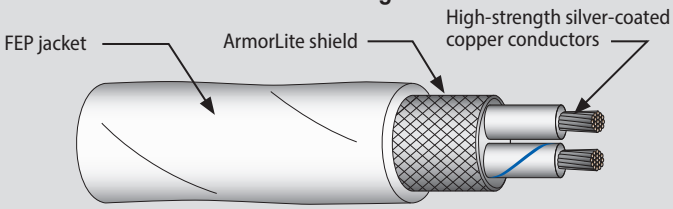
- **Made and tested IAW ANSI/NEMA WC 27500**
- **1–15 22759 primary hook-up wires**
- **Insulation types including crosslinked ETFE**
- **Industry-standard and Glenair signature shielding materials**
- **Standard and signature jacket compounds**

MIL-STAR™ 27500 MULTI-CONDUCTOR CABLES

ANSI/NEMA WC 27500 and Glenair signature multi-conductor cables. Each series supports M22759-16 thru -46 wire types with wire count, gauge, shield, and jacket options as allowed.

968-001

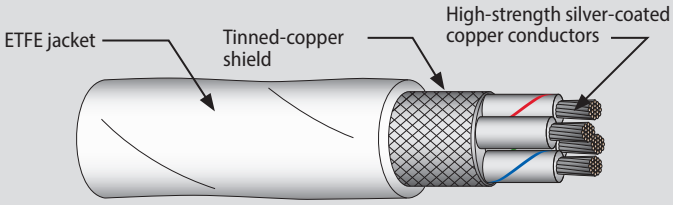
- **27500 type with ArmorLite or AmberStrand lightweight microfilament braided shielding**



MIL-STAR GS27500 cables may be specified with signature braided shielding including ArmorLite, ArmorLite CF, and AmberStrand. The ability to supply 27500 type cable in accordance with the ANSI/NEMA standard but optimized for SWaP with lighter weight ArmorLite and AmberStrand shielding is a unique Glenair-only capability.

GS27500-22

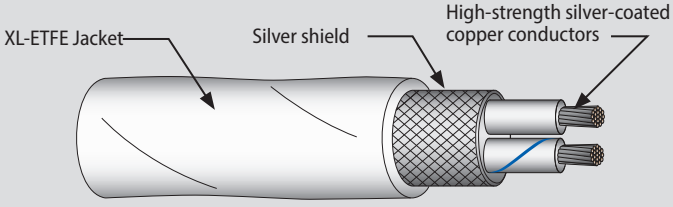
- **27500 type with GS22759-17 wire (silver-plated high-strength copper wire, ETFE insulation), and TC shielding.**



This configuration of multi-conductor GS27500 cable is built with GS22759 dash 17 inner wires: silver-plated high-strength copper wire with ETFE insulation. The cable is equipped with an overall tinned-copper EMI/RFI shield and standard fluoropolymer ETFE outer jacket. The superior mechanical properties of high-strength conductors contribute to the overall safety, reliability, and mechanical strength of the cable.

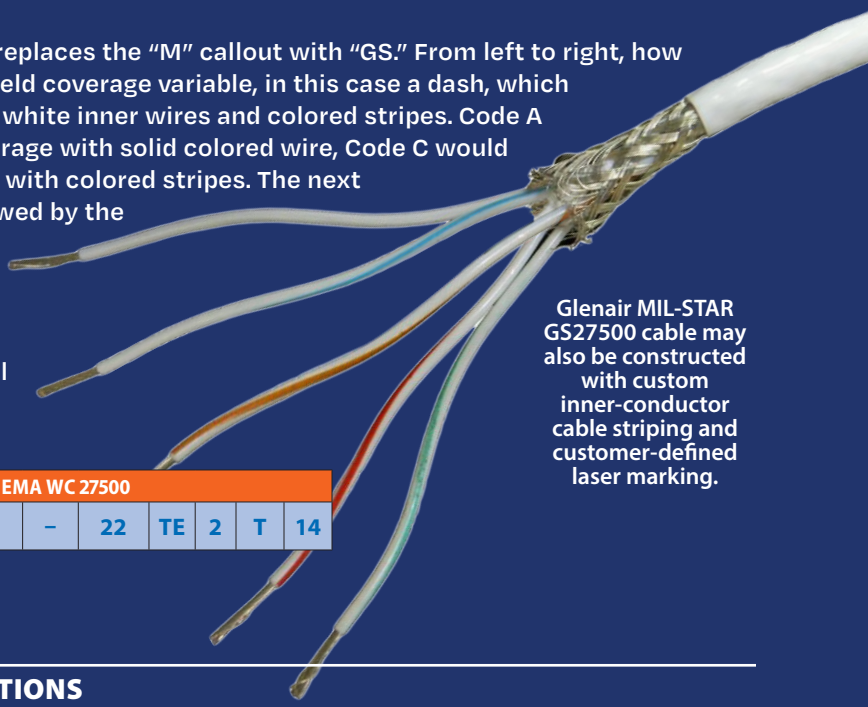
GS27500-24

- **27500 type with GS22759-33 wire (silver-plated high-strength copper wire, XL-ETFE insulation), and silver shielding.**



This cross-linked configuration of multi-conductor GS27500 cable is built with GS22759 type dash 33 inner wires: silver-plated high-strength copper wire with cross-linked XL-ETFE insulation. Cable is equipped with an overall silver-plated EMI/RFI shield and cross-linked XL-ETFE outer jacket. This multi-conductor 27500 type cable delivers far superior thermal stability, enhanced chemical resistance, mechanical strength, and electrical properties compared to non-crosslinked versions.

MIL-STAR GS27500 cable part numbering replaces the "M" callout with "GS." From left to right, how to order variables begin with the color code and shield coverage variable, in this case a dash, which indicates default 85% overall shield coverage, with white inner wires and colored stripes. Code A used in this position would denote 85% shield coverage with solid colored wire, Code C would denote 90% shield coverage with white inner wires with colored stripes. The next variable, 22 in our example, is conductor size, followed by the base wire specification (TE) indicating GS22759-16 wire is to be used in this cable buildup. Final variables include the number of inner wire conductors (2), type of overall shielding (T, for Tinned Copper), and finally jacketing material (14, indicating extruded ETFE in white).



Glenair MIL-STAR GS27500 cable may also be constructed with custom inner-conductor cable striping and customer-defined laser marking.

MULTI-CONDUCTOR M27500 TYPE IAW ANSI/NEMA WC 27500							
MIL-STAR Cable Sample Part Number	GS27500	–	22	TE	2	T	14

BETTER-THAN-QPL MIL-STAR SHIELDING OPTIONS

Glenair signature braided cable shield solutions include single and double layers of metal-clad composite microfilament AmberStrand®, microfilament nickel-clad stainless steel ArmorLite™, and ArmorLite™ CF corrosion-resistant.

MIL-STAR GS27500 SHIELDING OPTIONS		
Single Shield Code	Double Shield Code	Shield Description
AM	AS	AmberStrand®, Round
AR	AL	ArmorLite™, Round
AC	AF	ArmorLite™ CF, Round
U	U	Unshielded

ARMORLITE™

AmberStrand®

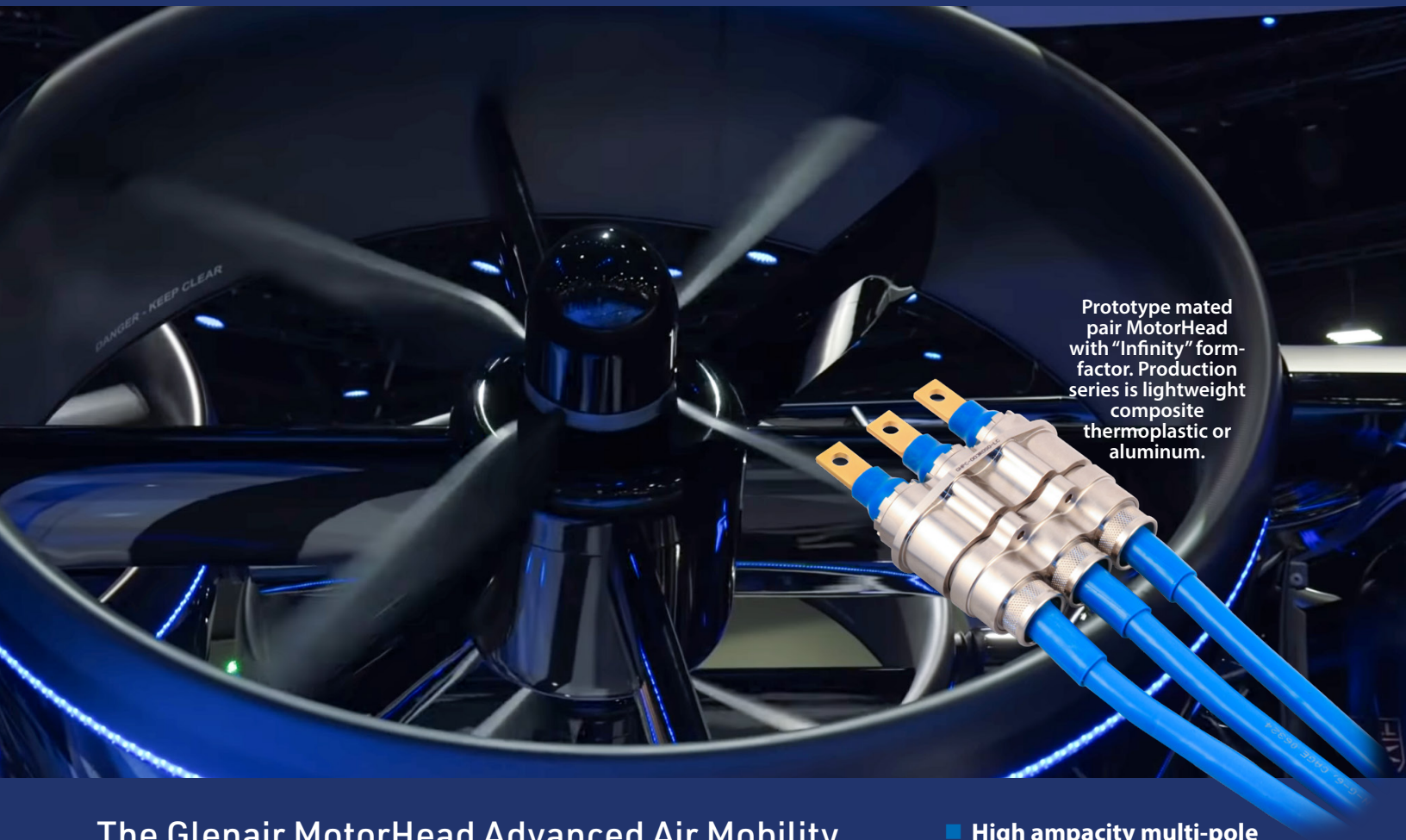
M N O P Q R S T U V W X Y Z

OPTIMIZED
FOR USE WITH
turboflex®
THE ULTRA FLEXIBLE RUGGED POWER CABLE

MotorHead™

Advanced Air Mobility Connectors

Low-profile, high-durability power connector with low-labor-cost assembly



Prototype mated pair MotorHead with "Infinity" form-factor. Production series is lightweight composite thermoplastic or aluminum.

The Glenair MotorHead Advanced Air Mobility connector is a low-profile, high-voltage solution for eVTOL advanced air mobility electric motor, inverter, and production break applications. The MotorHead connector solution is built around individually-shielded TurboFlex cable, high-ampacity contacts, and an easy-to-install Autoshrink insulator. Available materials include lightweight composite thermoplastic and aluminum. Both D38999 circular and innovative rectangular connector packaging options are available. Termination and assembly process saves time and labor.

- **High ampacity multi-pole series with Autoshrink insulator for reduced assembly and labor**
- **2500 VAC working voltage**
- **High-ampacity contacts: crimp-removable, low insertion force**
- **High current, low resistance, superior vibration resistance**
- **Safe-touch finger proofing**
- **TurboFlex-compatible**
- **Support for busbar and other wire terminations**
- **Range of multi-pin insert arrangements for size 8, 4, 2, 1/0, 2/0, 4/0 contacts**

LOW-PROFILE

MotorHead High-Power Connector for Electric Motor Power Applications

Life-of-system durability · fast, low-labor-cost assembly

BATTERY PLANT-TO-INVERTER-TO-ELECTRIC MOTOR CONNECTORS AND CABLES FOR eVTOL POWER DISTRIBUTION AND PROPULSION APPLICATIONS

MotorHead in low-profile motor-mount design—Glenair Signature "Infinity" form-factor—supplied in lightweight composite PEEK for optimized SWaP

MotorHead MIL-DTL-38999 Series III type form-factor for discrete power line applications

MOTORHEAD IS A PALS-APPROVED ASSEMBLY PROCESS AND LABOR SAVING INTERCONNECT SERIES

1. **Contact is crimp-terminated to appropriate gauge of TurboFlex cable**
2. **Autoshrink insulator is positioned and recovered over the contact and cable**
3. **Contact and cable sub-assembly is installed in the connector body and secured in place with follower and shield termination backshell**

GLENAIR SIGNATURE HIGH-AMPACITY CONTACTS

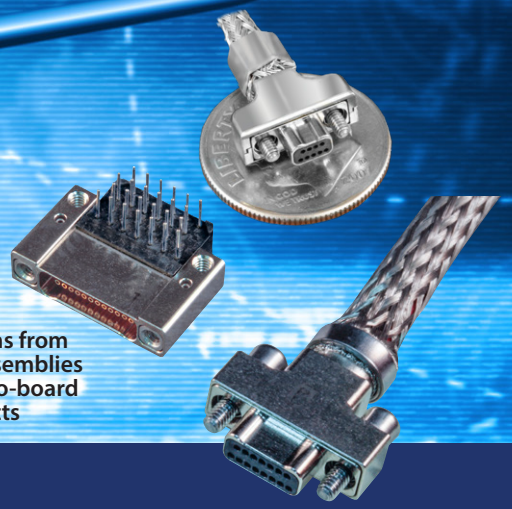
- **Crimp, bus bar, and lug wire termination**
- **Range of contact options including Crown Ring, LouverBand, or standard 39029 crimp**
- **Contact options allow for exact alignment of electrical and application requirements**
- **All contact designs utilize premium-quality materials and offer life-of-system durability and mating performance**

M N O P Q R S T U V W X Y Z

OPTIMIZED
FOR USE WITH
MIL-STAR™
HIGH-PERFORMANCE HOOKUP WIRE AND CABLE

nano miniature™

MIL-DTL-32139 QPL and Glenair signature nano miniature connector designs

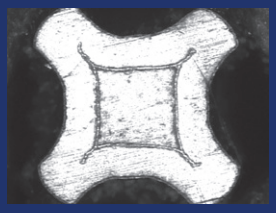


Turnkey solutions from shielded cable assemblies to discrete wire-to-board interconnects

The M32139 Nano is the smallest and lightest mil-spec connector in the business. 1 Amp contacts are set on .025" centers and terminated to 30 AWG wire or PCB tails. Glenair supplies both standard QPL designs as well as a broader range of signature offerings.

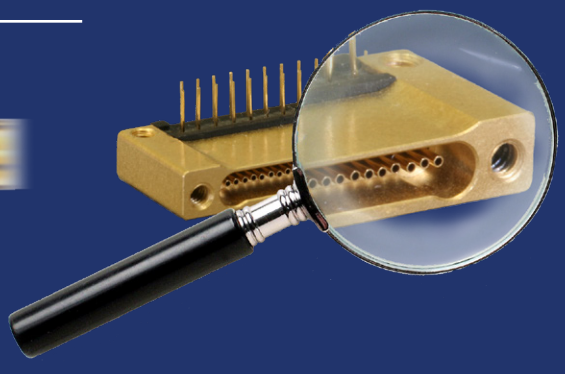
- Single and double row
- Metal shell, aluminum, titanium or stainless steel
- TwistPin contact system
- Gold alloy contact, unplated
- Thru-hole and surface-mount PCB versions

THE NANO TWISTPIN ADVANTAGE



Transverse cross-section of a TwistPin contact crimped to solid wire

- Gas-tight crimp joint
- Better shock and vibration performance
- Corrosion proof contact alloy



SERIES 89

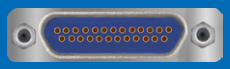
Nano Miniature Connectors

Ultra high density · single- and dual-row · cable and PCB

SERIES 89 NANO MINIATURE CONNECTOR PERFORMANCE	
Contact Spacing	.025" (0.64mm) Contact Centers
Wire Accommodation	#30-#32 AWG
Current Rating	1 AMP Max
DWV	250 VAC RMS Sea Level
Insulation Resistance	5000 Megohms Minimum
Operating Temperature	-55° C. to +125° C.
Contact Resistance	71 Millivolt Drop Maximum
Shock, Vibration	100g's, 20 g's
Durability	200 Mating Cycles
Corrosion Resistance	48 Hours Salt Spray
Mating Force	5 Ounce Max, 0.4 Ounce Min

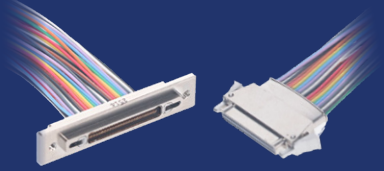
HOW SMALL ARE THEY?

D-Subminiature Connector
25 Contacts
on 0.109 Inch Spacing



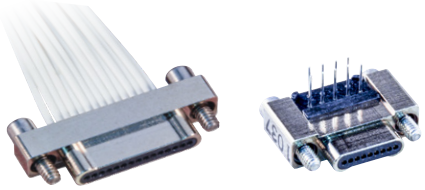
Micro-D Connector
25 Contacts
on 0.050 Inch Spacing

Nano Connector
25 Contacts
on 0.025 Inch Spacing

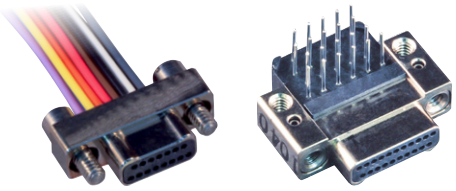


Also available: FOD-free latching nanominiature connectors

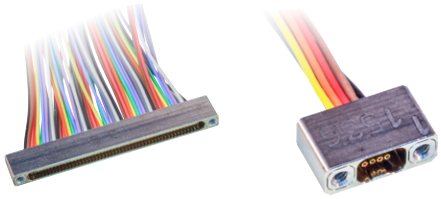
Nano Rectangular Single-Row Connectors and Accessories



Nano Rectangular Dual-Row Connectors and Accessories

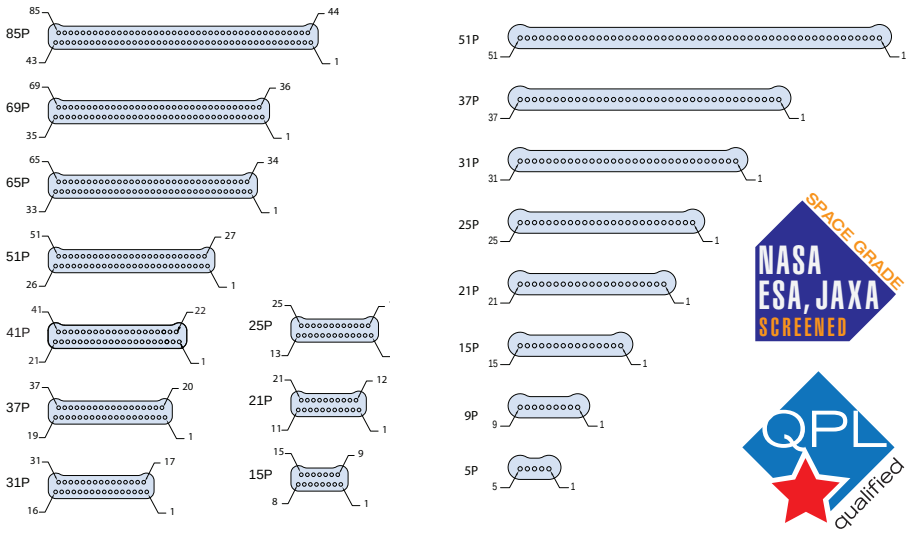


MIL-DTL-32139 Qualified Connectors and Accessories



Nano Circular Connectors and Accessories

NANO MINIATURE CONTACT ARRANGEMENTS



N O P Q R S T U V W X Y Z

OPTIMIZED
FOR USE WITH
MIL•STAR™
HIGH-PERFORMANCE HOOKUP WIRE AND CABLE

nano miniature™

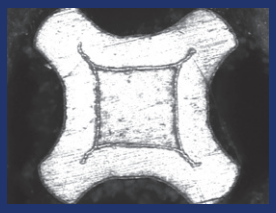
Glenair signature MIL-DTL-32139 type nano miniature circular connectors

Glenair Nano Circular—the smallest and lightest harsh-environment connector in the business. From left to right: D38999 Series III, Mighty Mouse Series 805, Glenair SuperFly, and Nanominiature Series 89 Nano Circular—all with similar pin count.

The M32139 Nano circular is the smallest and lightest harsh-environment connector in the business. 1 Amp contacts are set on .025" centers and terminated to 30 AWG wire or PCB tails. Glenair supplies both breakaway and threaded mating configurations with optimal size and weight reduction (SWaP).

- **Push-pull and threaded mating**
- **Metal shell: aluminum or stainless steel**
- **High vibration and shock gold alloy TwistPin contact system**
- **Prewired pigtails and PCB thru-hole**
- **Straight and right-angle thru-hole PCB versions**

THE NANO TWISTPIN ADVANTAGE



Transverse cross-section of a TwistPin contact crimped to solid wire

- **Gas-tight crimp joint**
- **Better shock and vibration performance**
- **Corrosion proof contact alloy**

Optimal SWaP for tactical warfighter applications

SERIES 89

Nano Miniature Circular Connectors

High density nano · signature TwistPin contacts · cable and PCB

PREWIRED NANO MINIATURE PIGTAIL ASSEMBLIES AND PCB RECEPTACLES

Pre-wired and PCB thru-hole mount circular nano plug and receptacle connectors with threaded or breakaway interfaces. Available receptacle mounting configurations include front panel mount, rear panel mount, and inline.

892-007 Breakaway Plug

892-005 Inline Threaded Receptacle

892-004 Inline Breakaway Receptacle

892-001 Front Panel Mount Threaded Receptacle

892-000 Front Panel Mount Breakaway Receptacle

892-003 Rear Panel Mount Threaded Receptacle

892-002 Rear Panel Mount Breakaway Receptacle

893-009 Rear Panel Mount, Threaded Receptacle with PC Tails

893-008 Rear Panel Mount, Breakaway Receptacle with PC Tails

893-011 Rear Panel Mount, Threaded Receptacle with Right-Angle PC Tails

893-010 Rear Panel Mount, Breakaway Receptacle with Right-Angle PC Tails

899-013, 899-014, 899-016 and 899-017 Threaded and Breakaway Circular EMI Covers

892-006 Threaded Plug

600-189 Spanner Nut Socket drive for rear panel mount circular connectors

SERIES 89 NANO MINIATURE CIRCULAR CONNECTOR PERFORMANCE			
Contact Spacing	.025" (0.64mm) Contact Centers	Contact Resistance	71 Millivolt Drop Maximum
Wire Accommodation	#30-#32 AWG	Shock, Vibration	100g's, 20 g's
Current Rating	1 AMP Max	Durability	200 Mating Cycles
DWV	250 VAC RMS Sea Level	Corrosion Resistance	48 Hours Salt Spray
Insulation Resistance	5000 Megohms Minimum	Mating Force	5 Ounce Max, 0.4 Ounce Min
Operating Temperature	-55° C. to +125° C.		

N O P Q R S T U V W X Y Z

COMPATIBLE WITH

SpeedLine™
High-Speed Protocol Cables

Octobyte™

The faster ruggedized 4/8 pole interconnect system for **industrial Ethernet** applications

Glenair series ITH connectors with Ethernet-ready Octobyte™ contacts are available for harsh-environment mass transit applications that depend on sealed environmental (IP67) connector performance. Octobyte contacts, packaged in ruggedized ITH reverse-bayonet connectors, deliver both dedicated Ethernet datalink as well as mixed serial databus and power for high-speed data applications. Octobyte contacts are vibration resistant and designed to work with Ethernet cables from CAT 5 to CAT 7A, MVB-WTB, and RG58 Coax. Reverse-bayonet ITH series connectors with Octobyte™ contacts are easy and fast to assemble and deliver reliable locking performance in severe vibration and shock applications.

- **For harsh-environment transit, industrial, or marine/subsea applications**
- **RF Coax applications (RG58 and RG59U cables)**
- **High-speed interconnect solution for audio, video, and digital displays**
- **Qualified for use in safety systems, sensors, detection devices, and control panels**
- **Tested in accordance with:**
  ISO F0 STP: CAT 7A
  EN50173-1 F600-STP: CAT 7
  EN50173-1 D STP: CAT 5E

Tested for compliance IAW EN50173-1 standards for CAT5E and CAT7.
Proven performance in numerous rail applications (consult factory for references).

INDUSTRIAL-GRADE

Octobyte: the Faster Ruggedized Ethernet Interconnect Solution

For industrial and rail Ethernet applications

OCTOBYTE CONTACTS FOR ETHERNET CAT 5 · CAT 6 · CAT 7 · COAX · MVB-WBT

CAT 5 · CAT 5E · CAT 6 · CAT 6A

RG58

CAT 6A · CAT 7 · CAT 7A

MVB - WTB

SERIES ITH CONNECTORS FOR OCTOBYTE CONTACTS

Reverse bayonet-lock connectors with rugged environmental performance — the perfect Octobyte packaging solution

Dozens of contact arrangements available including hybrid Octobyte, power, and signal.

- Rugged MIL-DTL-5015 type design with fast reverse bayonet coupling
- Rigid dielectric inserts with contact retention clips
- Positive lock technology provides reliable vibration and shock resistance
- Proven performance in even the most rugged applications
- Conforms to the European VG 95234 standard, French (NFF 61030) and British (BS 6853) electrical standards and EEC compliance directives
- Threaded coupling version available, contact factory for ordering information

Available flop-lid protective cover

RadGrip rubber-covered coupling nuts available in a wide range of colors including safety red.

Ethernet-ready Octobyte solutions for rail and transit applications are available as discrete contacts, packaged in rugged reverse-bayonet ITH series connectors, or as turnkey inside-the-box or environmental cable assemblies, tested and ready for immediate use.

O P Q R S T U V W X Y Z

OPTIMIZED
FOR USE WITH
turboflex
THE ULTRA FLEXIBLE RUGGED POWER CABLE

POWER LOAD™

Advanced power connectors for higher voltage, higher altitude, and higher frequency applications

The aircraft industry's most advanced power distribution interconnect

Electrical power generation technology in aircraft has evolved to meet modern requirements for higher power and lighter weight systems. Growing electrical power needs on commercial aircraft—particularly for backup generator applications—have caused major changes in power system architectures to accommodate peak-load stress factors in electrical wire interconnect (EWIS) cabling.

- **PowerLoad™, the high-vibration, high-temperature interconnect optimized for higher-voltage, higher-altitude, and higher-frequency**
- **TurboFlex®, the Glenair signature high-flexibility power cable solution jacketed with rugged Duralectric insulation. Available wire cores include rope-lay (standard) for maximum flexibility, and M22759 wire (TurboFlex M) with the flight heritage of a mil-spec core and slightly larger bend radius.**
- **Crown Ring crimp, bus bar, and lug style contacts, optimized for high current carrying, high temperature performance.**

THE POWERLOAD ECOSYSTEM: CONNECTORS, CONTACTS, CABLES, ACCESSORIES, AND ASSEMBLIES

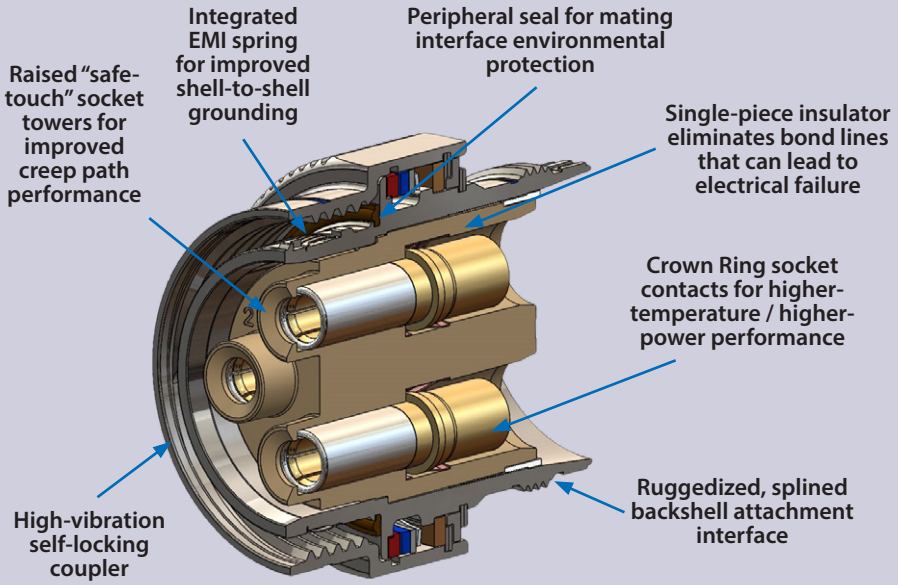
- **For applications up to 2000 VAC / 1500 Hz and higher, and from 150 – 800 Amps.**
- **230°C maximum operating temperature connectors (stainless steel bodies and shells)**
- **TurboFlex® rope lay power cables optimized for PowerLoad™ connectors, from 8 AWG to 4/0**
- **Ultra-flexible configurations with ruggedized Duralectric or FEP jacketing: single-wall hookup wire or dual-wall jacketed interconnect cabling**
- **High-temperature Crown Ring contact technology**
- **Heavy-duty accessory interface**

HIGH-POWER

PowerLoad™ Aircraft Connectors and Cables

For backup generators and other high power demand applications

POWERLOAD™: KEY CONNECTOR AND CONTACT DESIGN FEATURES



PLUG CUTAWAY VIEW

GLENAIR SIGNATURE CROWN RING CONTACTS

- Crimp, bus bar, and lug wire termination
- Precision-machined high conductivity copper alloy
- Up to 60% lower contact resistance than equivalent AS39029 contacts
- Higher operating temperature resistance compared to other specialized high-power contacts
- Gold-plated for enhanced high-vibration durability

TURBOFLEX® ULTRA FLEXIBLE / RUGGED POWER CABLES WITH DURALECTRIC OR FEP JACKETING

TurboFlex high-flexibility power cabling has been optimized for use with PowerLoad connectors. TurboFlex is supplied with either industry-standard FEP or Glenair signature Duralectric jacketing material, which is optimized for fluid immersion, caustic chemical exposure, temperature extremes, and UV radiation. Both materials are available in a broad range of colors, including safety orange.

Available with cable gauge selections from 8 AWG to 4/0, to provide suitable margins for DWV, frequency derating, and peak-load performance.

Abrasion Resistance	Good
Wear Resistance	Good
Flame Resistance	Excellent
Sunlight Resistance	Excellent
Flex Resistance	Excellent

TURBOFLEX® WITH DURALECTRIC™ JACKETING: ENVIRONMENTAL PERFORMANCE

Temperature rating: -60°c to 200°c

Halogen free per IEC 60614-1

Accelerated weathering and simulated solar radiation at ground level per IEC 60068-2-5; 56 Days exposure, suitable for greater than 50 years of service in direct sunlight

Flame resistant per IEC 60614-1

Flame resistant per UL 1685, section 12 (FT4/ IEEE120), vertical-tray fire-propagation and smoke release test

Flame resistant per FAR 25.853 (A) amendment 25-116, appendix Fpart I (A) (1) (i), 60 second vertical burn test

Limiting oxygen index of 45 per ISO 4589-2:1999

Low smoke per NES 711, smoke density of 11.75

Smoke density class F1 per NF F 16-101 IAW DIN EN 60695-2-11:2011

Low smoke toxicity per NES 713, tested value of 1.9

Fungus rating of 0 per MIL-STD-810g method 508.5, Does not support fungal growth

ASTM D624, die B tear strength, 150 pounds per inch minimum on jacket material

Low outgassing per ASTM e595 after post curing, TML .06%, CVCM .006%, WVR .02%

Resistant to fluids per MIL-STD-810F, method 504

JP-8 per MIL-DTL-83133 (NATO type 34)
MIL-H-5606 hydraulic fluid
MIL-PRF-23699 lubricating oil
MIL-C-85570 cleaner
TT-I-735 Isopropyl alcohol
AMS 1432 potassium acetate deicing/anti-icing fluid
MIL-C-87252 coolant
Amerex AFF fire extinguishing foam

P Q R S T U V W X Y Z

OPTIMIZED
FOR USE WITH
turboflex®
THE ULTRA FLEXIBLE RUGGED POWER CABLE

PowerPlay™

A complete ecosystem of lightweight vibration- and shock-resistant connectors, contacts, and cables

PowerPlay is a high-power, single-pole and multi-pole connector series—with four different circular and rectangular packaging options: SuperNine Series III triple-start, SuperNine Series I bayonet, Series 806 micro-miniature, and Micro-Crimp precision rectangular. The connector series combines Glenair signature raised tower insert architecture, Crown Ring contacts, and TurboFlex cable compatibility into the interconnect industry's most innovative power solution. PowerPlay's high-conductivity Crown Ring contact and dielectric insert technology delivers 5,000 VAC dielectric withstanding voltage. Raised safe-touch socket tower and available safe-touch pin meets industry protection requirements for high power distribution applications.

- **5000 VAC dielectric withstanding voltage**
- **High current, low-resistance, and superior vibration performance**
- **Safe-touch finger-proofing**
- **Integrated band platform cable shield termination**
- **Compatible with TurboFlex high-flexibility cable**
- **Support for bus-bar and other wire terminations**
- **Multi-pin arrangements for size 8 and 4 AWG contacts. Single-pole arrangements for 2, 1/0, 2/0, and 4/0 contacts. Options for 20 AWG interlock contacts on all sizes**

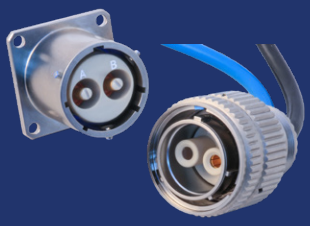
SERIES 973

PowerPlay™ High-Power Connectors and Cables

Rugged, life-of-system durability

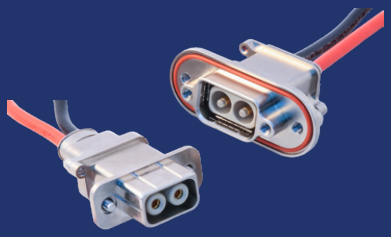
POWERPLAY SIGNATURE HIGH-POWER CONNECTOR SELECTION GUIDE

SuperNine Series III
PowerPlay Triple-Start



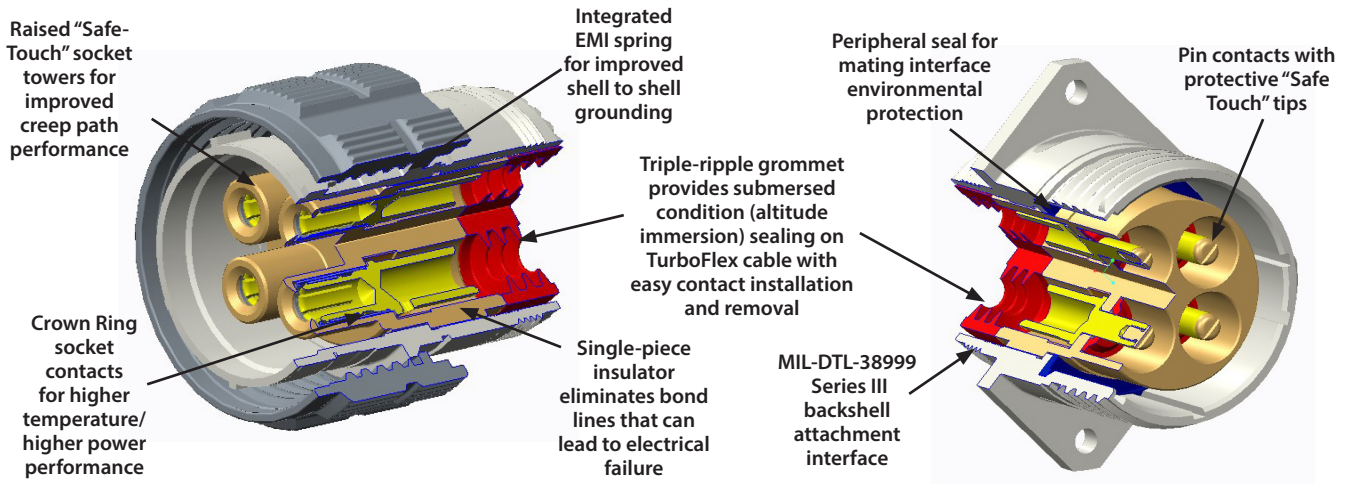
SuperNine Series I
PowerPlay Bayonet

Series 806 Mil-Aero
PowerPlay High Density

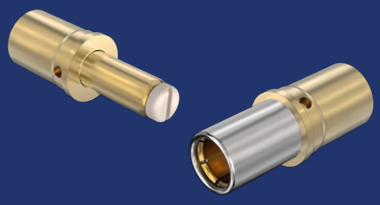


Micro-Crimp
PowerPlay Rectangular

PowerPlay™: KEY CONNECTOR AND CONTACT DESIGN FEATURES, PLUG AND RECEPTACLE CUTAWAY VIEWS



GLENAIR SIGNATURE CROWN RING CONTACTS



- High vibration-resistant, high-conductivity gold-plated copper alloy. Socket contact adds stainless steel Crown Ring; pin contact adds thermoplastic finger-safe tip
- Up to 60% lower contact resistance than equivalent AS39029 contacts
- High operating temperature resistance compared to other specialized high-power contacts

TURBOFLEX® ULTRA FLEXIBLE / RUGGED POWER CABLES WITH DURALECTRIC JACKETING

TurboFlex high-flexibility power cabling is optimized for use with PowerPlay connectors and is supplied with Glenair signature Duralectric jacketing material for rugged fluid immersion, caustic chemical exposure, temperature extremes, and UV radiation. Duralectric is available in a broad range of colors, including safety orange. Two cable core constructions are supplied: TurboFlex M with AS22759-type conductors, and TurboFlex R with ultra-flexible rope-lay conductors.

Available with cable gauge selections from 8 AWG to 4/0, to provide suitable margins for DWV, frequency derating, and peak-load electrical performance.

DURALECTRIC JACKETING	
Abrasion Resistance	Good
Wear Resistance	Good
Flame Resistance	Excellent
Sunlight Resistance	Excellent
Flex Resistance	Excellent

P Q R S T U V W X Y Z

OPTIMIZED
FOR USE WITH
turboflex
THE ULTRA FLEXIBLE RUGGED POWER CABLE

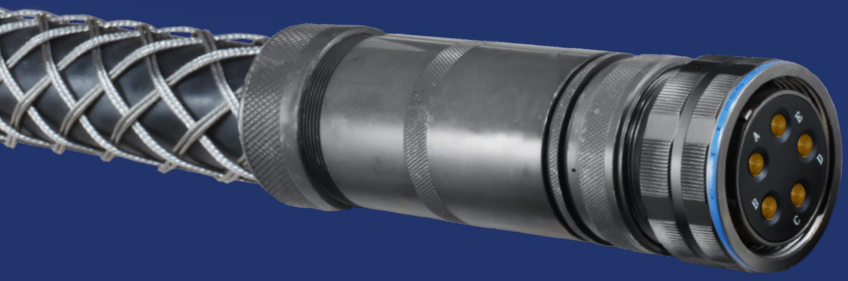
POWER TRIP™

PowerTrip™ Series 970 reduced size and weight power connectors for extreme environments

Reduced size and weight power connectors

Lightweight plug with ratcheting coupling nut and LouverBand contacts

Keyed receptacle with superior sealing and EMI shielding



- Fast, easy mating with triple-start ACME thread: 360° turn for full mating
- Reduced size and weight compared to 5015/VG95234 solutions
- LouverBand sockets for improved current ratings and longer life, up to 2000 mating cycles
- Splined backshell interface for improved backshell attachment and EMI shielding
- Ratcheting coupling nut for secure mating
- Operating temperature -65° C to +200° C
- Hermetic and filter options available

The Series 970 PowerTrip™ offers improved performance compared to standard 5015 type power connectors: higher density and lighter weight packaging, rapid mating and demating triple-start threaded coupling, and extremely rugged splined and threaded backshell attachment interface.

SERIES 970

PowerTrip™ Connectors and Cables

The power connector for extreme environments

SERIES 970 POWERTRIP™ CONNECTOR STYLES

Plug
970-001

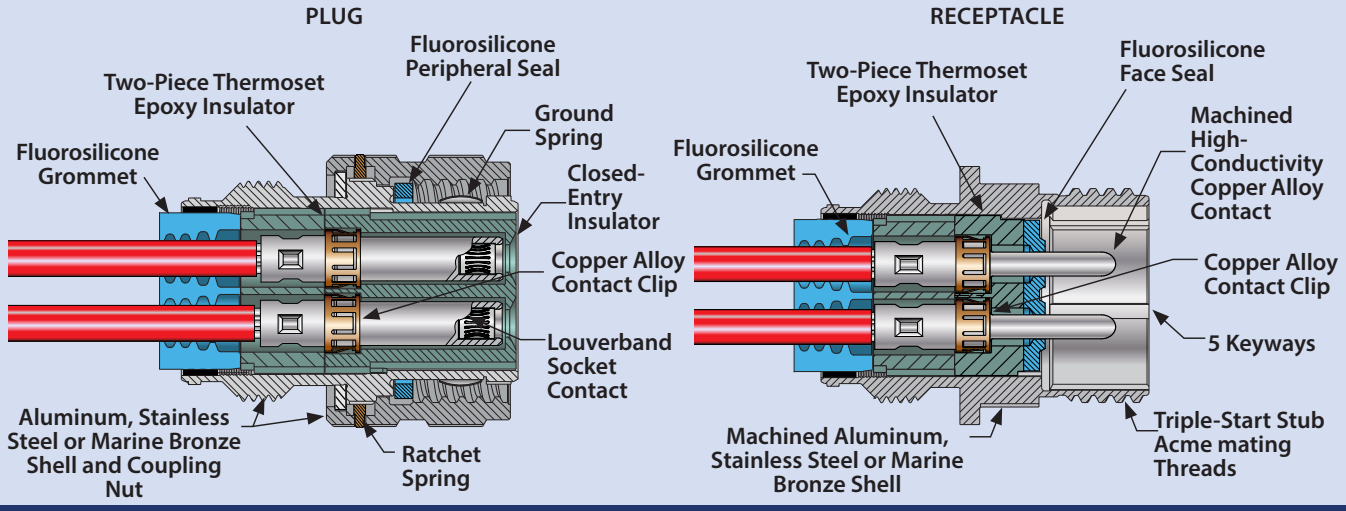
Square Flange Receptacles
970-003

Jam Nut Receptacles
970-004

Cable Receptacles
970-005

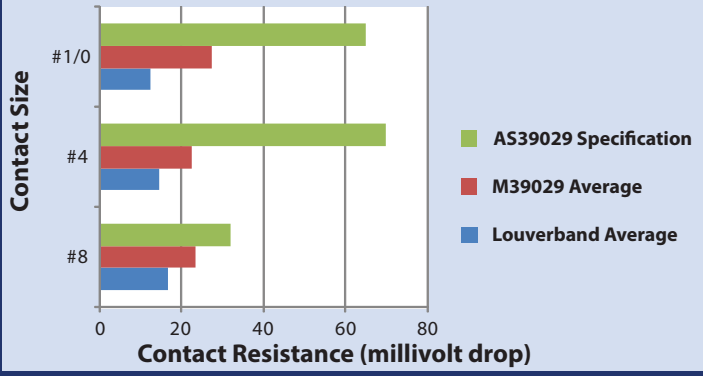
Feed-Thru Bulkhead
970-006

Hermetic Feed-Thru Bulkhead
970-007



SERIES 970 POWERTRIP™ SPECIFICATIONS	
Current Rating	Up to 225 A.
Dielectric Withstanding Voltage	2000 VAC
Insulation Resistance	5000 megohms minimum
Operating Temperature	-65° C. to +200° C.
Shock	300 g.
Vibration	37 g.
Shielding Effectiveness	65 dB minimum from 1GHz to 10GHz.
Durability	2000 mating cycles

CONTACT RESISTANCE AFTER 1000 MATING CYCLES



ABOUT THE POWERTRIP CONTACT SYSTEM

Series 970 contacts are precision-machined using high conductivity copper alloy. A stamped and formed spring ("LouverBand") is installed into the socket contact. The spring is made from 6 mil copper alloy. Testing has demonstrated that this contact system outperforms conventional aerospace-grade contact systems. The LouverBand spring provides many points of electrical contact with the mating pin, as opposed to a few "high spots" on a conventional four-finger contact as shown in the figure below. The size #8 PowerTrip socket contact has a total of 18 louvers. The #4 has 27 louvers, and the #1/0 has 42 louvers. The LouverBand design offers lower voltage drop for reduced Joule heating. In addition to its electrical advantages, the LouverBand also is mechanically superior to four-finger contacts. The LouverBand spring has consistent, stable normal force, even when subjected to thousands of mating cycles and temperature extremes.

Conventional contact on the left, LouverBand contact on the right

LouverBand socket contact cutaway

P Q R S T U V W X Y Z

OPTIMIZED
FOR USE WITH
turboflex
THE ULTRA FLEXIBLE RUGGED POWER CABLE

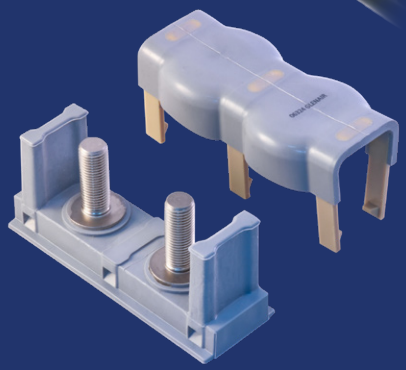
PwrLine HV™

High-current power feeder system and current return network for metal and composite fuselage aircraft applications

Unique power feeder system eliminates power line routing and termination issues

For aircraft electrical applications that require discrete routing of 3-phase and DC power lines, Glenair has developed the PwrLine HV. PwrLine HV replaces conventional terminal strips and terminal lugs with a solution that eliminates the issues associated with routing large gauge cables. The PwrLine HV uses a crimp contact system that can accommodate tolerancing variations that routinely occur with large cables. Routing power feeders through the 3-D spatial environment routinely creates installation and terminal lug orientation issues. PwrLine eliminates these problems with its unique rotatable pin / socket architecture and unique in-line insulation packaging.

PwrLine HV is a complete power feeder and current return network system that includes contacts, cables, holding fixtures, mountable connector packages, as well as high-voltage terminal blocks and lugs for reduction of partial discharge and corona. Lightweight, high-durability Duralectric terminal blocks, hoods, and cable jackets deliver outstanding environmental and insulation performance.



PwrLine HV: a complete power feeder ecosystem with matched, compatible components

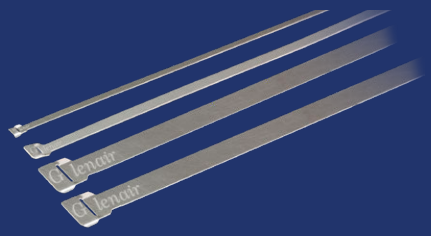
HIGH-CURRENT / HIGH-VOLTAGE

PwrLine HV Power Feeder System

For aircraft electrical power distribution systems

PWRLINE HV POWER FEEDER SYSTEM COMPONENTS

- **Resolves cable lug misalignment issues**
- **Eliminates twisted cable (rotational) problems during assembly**
- **Integrated / compatible power line feeder system used in combination with PowerLoad and other power distribution system connectors**



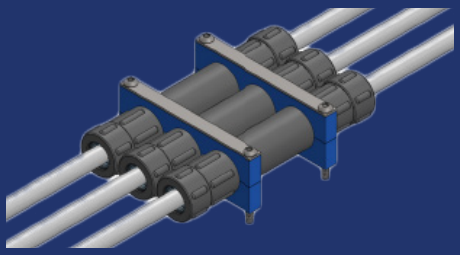
PwrLine HV power feeder system uses Band-Master ATS® termination bands

PWRLINE HV SPLICE KIT TERMINATION / ASSEMBLY PROCEDURE

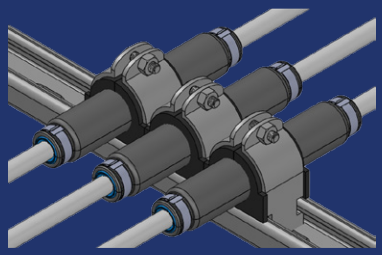
PwrLine HV one-position splice kit contacts

Mated contacts, terminated with Band-Master ATS band…

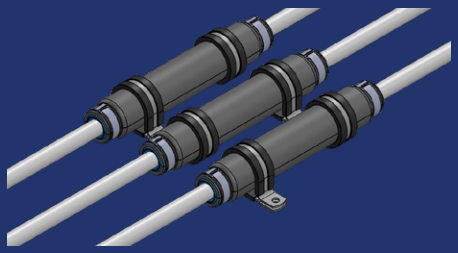
…and environmentally protected with cold-action AutoShrink sleeve



Schematic illustration with line block mounting hardware…

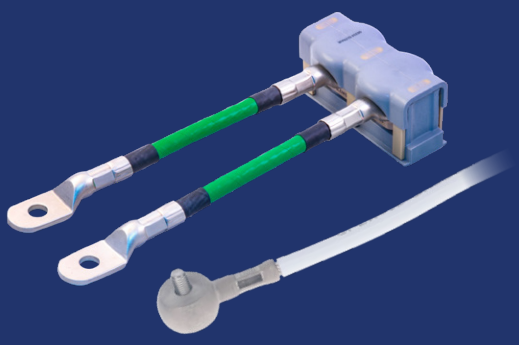


…strut clamp mounting hardware…

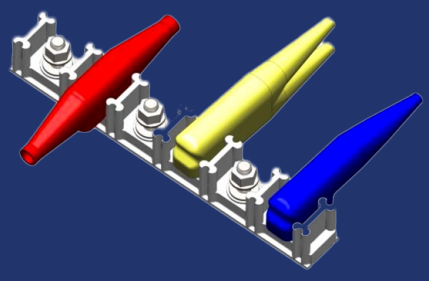


… and P-clamp mounting hardware

Multiple designs of high-voltage terminal blocks with accommodation for PwrLine HV lugs and/or standard lugs



Conventional and PwrLine HV terminal lugs



Color-coded terminal lug hoods made from high-performance Duralectric material

P Q R S T U V W X Y Z

OPTIMIZED
FOR USE WITH
turboflex®
THE ULTRA FLEXIBLE RUGGED POWER CABLE

PwrLine HV™

Current Return Network for protection against electromagnetic interference propagated in aircraft power lines

The PwrLine™ Current Return Network revises traditional approaches to grounding systems on commercial aircraft

The Glenair Current Return Network grounding solution uses a contact system and Band-Master ATS® grounding technology to simplify routing and termination processes and guarantee a stable electrical interface. Power contacts feature a rotatable pin / socket construction to eliminate twisted cable during assembly. The Duralectric™ overmolded T fixture and Autoshrink™ boots, easily installed over the fixture's integral boot platforms, provide a durable environmental seal. The design is scalable for lightning strikes and fault currents.

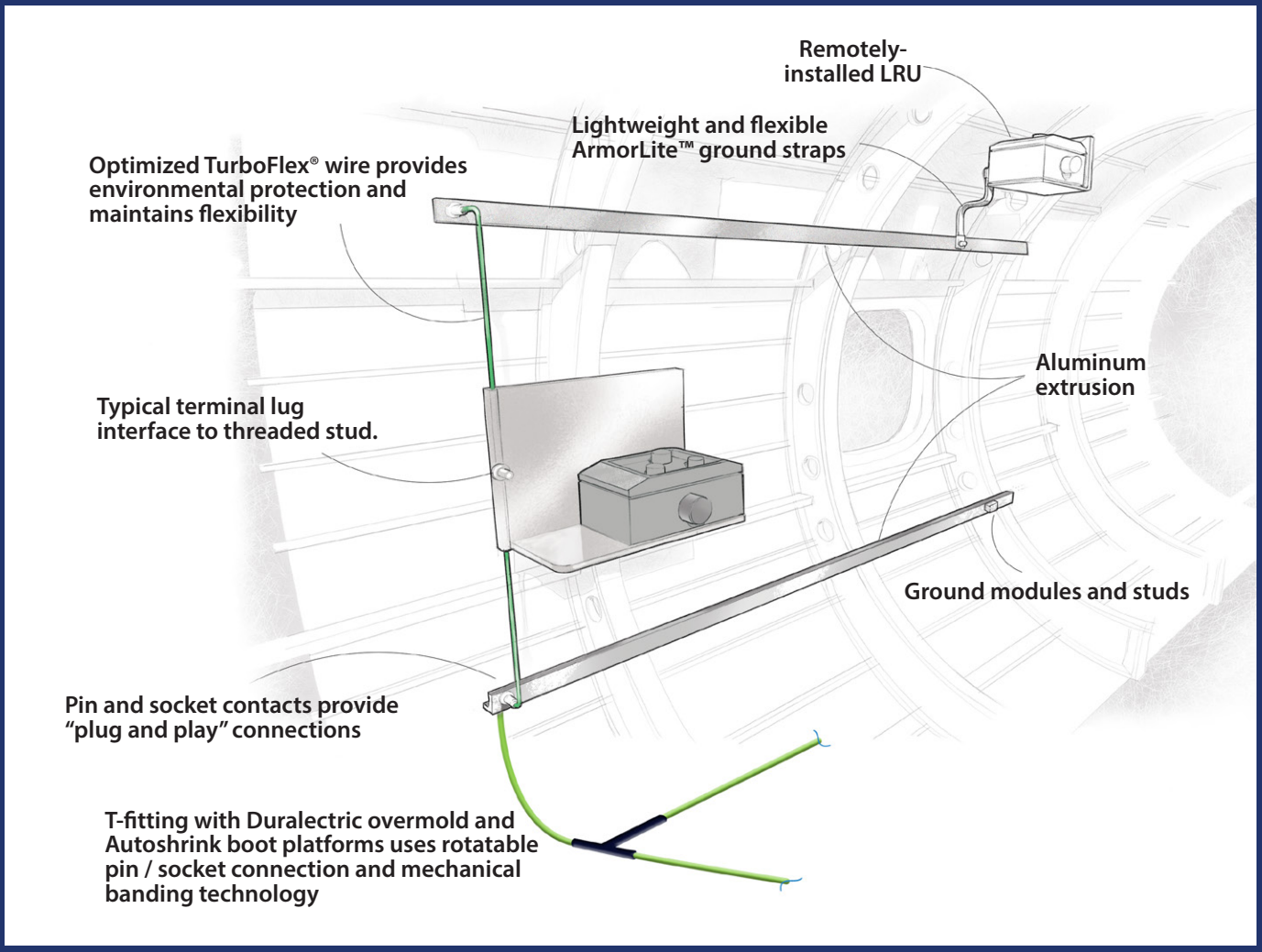
The Current Return Network system employs "plug and play" connections and calibrated banding, eliminating the need for washers and torque wrenches, and waiving inspection requirements. The network's optimized TurboFlex™ wire and 16 mil insulated copper conductor provide both outstanding environmental protection and extreme flexibility.

- **Replaces the traditional terminal lug / terminal strip solution**
- **Resolves cable lug misalignment issues**
- **Eliminates twisted cable (rotational) problems during assembly**
- **Integrated / compatible power line feeder system used in combination with PwrLine HV power distribution system**
- **Tested to 30kA waveform 5B**

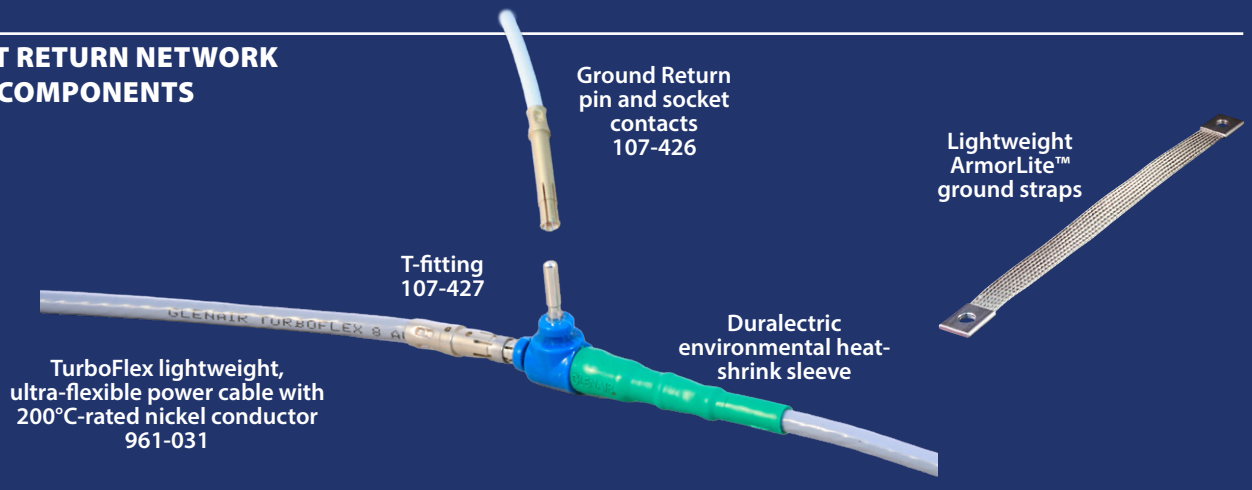
PwrLine HV
Ground (Current) Return Network

For aircraft electrical power distribution systems

CURRENT RETURN NETWORK SYSTEM ILLUSTRATION



CURRENT RETURN NETWORK SYSTEM COMPONENTS



A GLENAIR SIGNATURE

High-Rel Cable Assembly

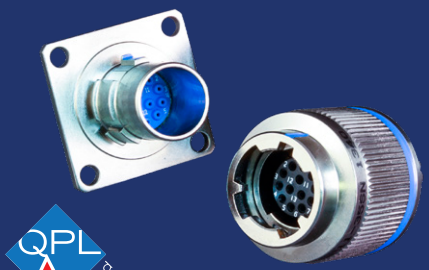
CRITICAL COMPONENT

Qualified Mil-Spec Interconnect Technologies

DLA and NAVSEA connector qualifications aren't just stamps – they're frontline assurance of performance, reliability, and trust for the most demanding missions. Glenair secures and maintains its QPL standings to provide our customers with complete confidence in these standard interconnect technologies as well as our derivative "Better than QPL" signature solutions.

MIL-DTL-38999 Series III molded composite thermoplastic PEEK plugs and receptacles, classes J and M

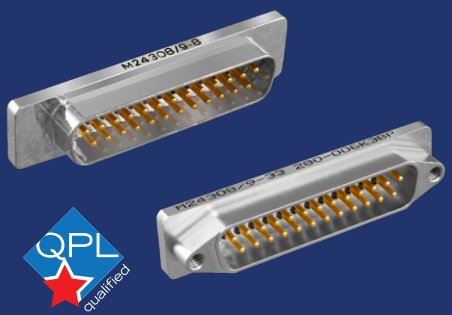
MIL-DTL-38999 Series III Environmental Connectors



MIL-DTL-38999 Series IV Environmental Connectors

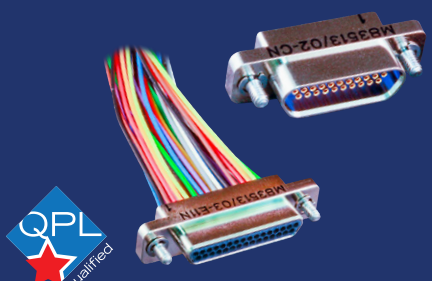
MIL-DTL-28840 Shipboard Connectors and Accessories

MIL-DTL-38999 Series I, II, III, and IV Hermetic Connectors



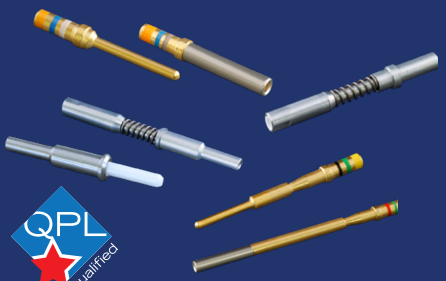
MIL-DTL-24308 Hermetic Connectors

MIL-DTL-28876 Shipboard Fiber Optic



MIL-DTL-83513 Micro-D Connectors and Accessories

MIL-DTL-32139 Nanominiature Connectors and Accessories



MIL-DTL-29504 Fiber Optic Termini and AS39029 Electrical Contacts

HIGH AVAILABILITY

QPL Military Standard Interconnect Technologies

DLA · NAVSEA · VG · TACOM · SAE · NATO STANAG

MIL-DTL-55116 Radio / Audio Connectors

807 NW Nett Warrior
Qualified Tactical Connectors

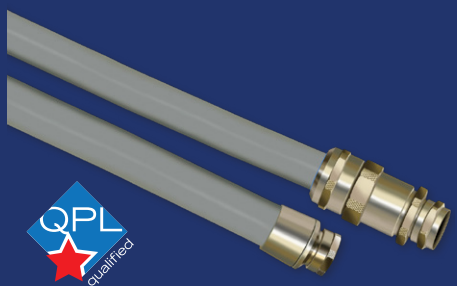
STAR-PAN Power / Data Hubs and
Tactical Cordsets

M85049 (AS85049) Backshells and
Connector Accessories

MIL-DTL83723 Backshells and Connector
Accessories

M81511 (AS81511) Protective Covers and
Connector Accessories

M85049/140 TACOM-Approved and Navy-
Qualified 5617649 Shrink Boots



MIL-PRF-24758 Navsea-Qualified
Conduit and Fittings

M85049 Composite Backshells and Covers
for MIL-DTL-38999

Verteidigungsgeräte qualified
VG95328 Bayonet-Lock IAW MIL-DTL-26482 Series I

Tin-Zinc (TZ) DLA-qualified replacement
finish for Cadmium, NAVSEA QPL finish for
M28840, and VG QPL finish for VG95234

Q
R
S
T
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A GLENAIR SIGNATURE

High-Rel Cable Assembly

CRITICAL COMPONENT

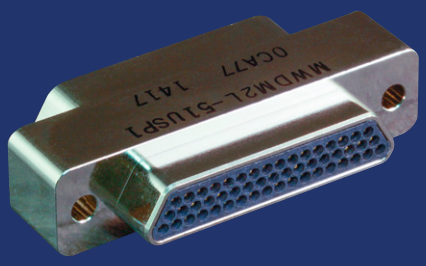
SAV-CON®

Flight-Proven Connector Savers and Bulkhead Feed-Thrus

Glenair SAV-CON®s protected umbilical connectors on every Space Shuttle Mission
Photo: NASA/George Shelton

The smart solution for preventing contact damage and extending the service life of cable assemblies and box and panel-mount receptacles

Series changers and gender changers available in both Sav-Con® and bulkhead feed-thru configurations



Circular and rectangular configurations available including hermetic and EMI/RFI filter configurations

- **Sav-Con®s for every circular and rectangular mil-standard connector**
- **Hundreds of successful space launch and space flight applications**
- **Bulkhead feed-thrus for environmental, filter, and hermetic applications**
- **Pin/pin, pin/socket, and socket/socket versions**
- **Traditional plug-receptacle savers, as well as in-line versions and gender changers**
- **Available EMI/EMP filter savers and adapters**
- **Optional locking mechanism**

HIGH-PERFORMANCE CONNECTOR GO-BETWEENS

Sav-Con® Connector Savers and Bulkhead Feed-Thrus

Environmental · filter · hermetic

Each Glenair Sav-Con® Connector Saver meets the military specification performance requirements of its mating connector. Glenair manufactures and supplies a Sav-Con® connector saver for every military standard connector currently in use including:

- **MIL-DTL-26482 Series I and II**
- **MIL-DTL-28840**
- **MIL-DTL-38999 Series I, II, III**
- **MIL-DTL-83723**
- **LN 29729 (SJT)**
- **PATT 105 and PATT 602**
- **MIL-DTL-5015**
- **Series 801 and 805 Mighty Mouse**
- **Series 89 Nanominiature**
- **M24308 D-Subminiature**
- **MIL-DTL-83513 Micro-D Subminiature**
- **Series 28 HiPer-D M24308 intermateable**
- **Series 79 Micro-Crimp**
- **Series 23 SuperNine**

Comprehensive materials, plating, and polarization options available

TRADITIONAL PLUG-RECEPTACLE SAV-CON® CONNECTOR SAVERS

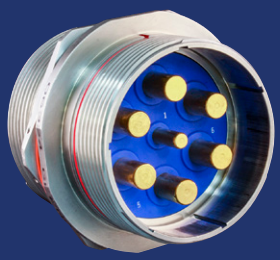
MIL-DTL-38999 Series III type

Series 89 Nanominiature rectangular

MIL-DTL-38999 Series II bayonet-coupling saver

Series 80 Mighty Mouse Sav-Con®

BULKHEAD FEED-THRUS



Special high-voltage power bulkhead feed-thru

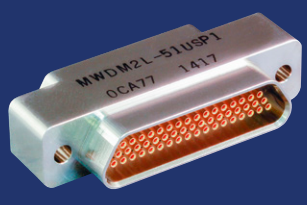
Special wide panel accommodation Mighty Mouse bulkhead feed-thru

MIL-DTL-5015 bulkhead feed-thru

Special non-cadmium plating classes

SPECIAL-PURPOSE ADAPTERS AND SAVERS

EMI/RFI filter Sav-Con® adapter (D38999 Series III type shown)



Rectangular EMI/RFI filter Sav-Con adapter (MIL-DTL-83513 type shown)

Power distribution connector savers (MIL-D-5015 type shown)

S T U V W X Y Z

OPTIMIZED
FOR USE WITH
SeaKing
PRESSURE-RATED CABLES

Seacrow™
SUPER ITS

Seacrow™ reverse-bayonet Super ITS-MB and IGE-MB connectors and cables

For oil rig, shipboard, and other harsh-environment oil & gas applications

Super ITS - MB Seacrow reverse bayonet marine bronze series connectors are compliant with MIL-DTL-5015, using the same power and signal insert arrangements but with reverse-bayonet coupling and precision-machined marine bronze construction. These ultra-harsh environment connectors are ideally suited for above-deck navy shipboard applications where repeated exposure to seawater and salt spray can quickly degrade effectiveness of connector finishes leading to corrosion and possible failure.

Super-ITS MB Seacrow connectors exceed VG95234 standards for both sealing and durability. Over 200 MIL-STD-1651A standard and combo insert arrangements are available in 9 shell sizes, fully tooled and ready for immediate shipment. A wide selection of backshell options including cable shield termination for EMI/RFI applications and cable sealing backshells for conduit termination are also available. IP67 protection standard with IP68 available on request.

- **Precision-machined marine bronze alloy construction for superior corrosion resistance and reliable topside mating in seawater splash zones and other harsh environments**
- **IP67 environmental sealing in mated condition; IP68 versions available**
- **Over 200 power and signal arrangements IAW MIL-DTL-5015 / VG95234**
- **Special single-pole versions for low- to medium-voltage power applications**
- **Super ITS - MB Seacrow connectors accommodate wires from 26 AWG to 4/0 AWG**
- **A wide variety of backshells allow the ITS-MB to accept jacketed cables, single or multi-poles, with or without EMI/RFI shielding, conduits with PG or metric thread**

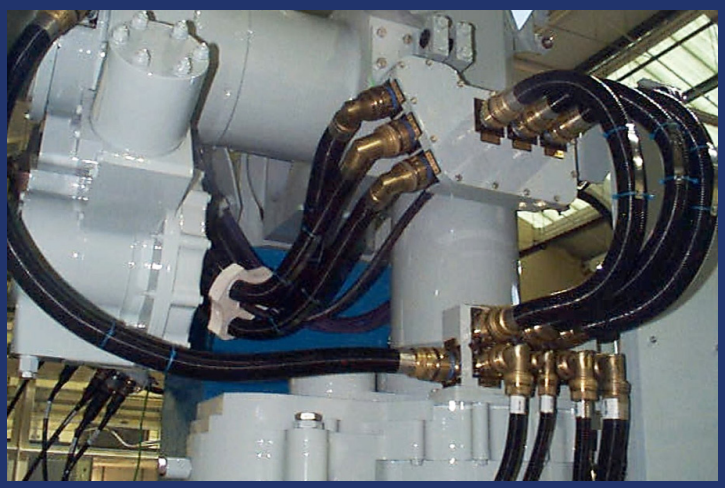
REVERSE-BAYONET

Seacrow Super ITS-MB and IGE-MB

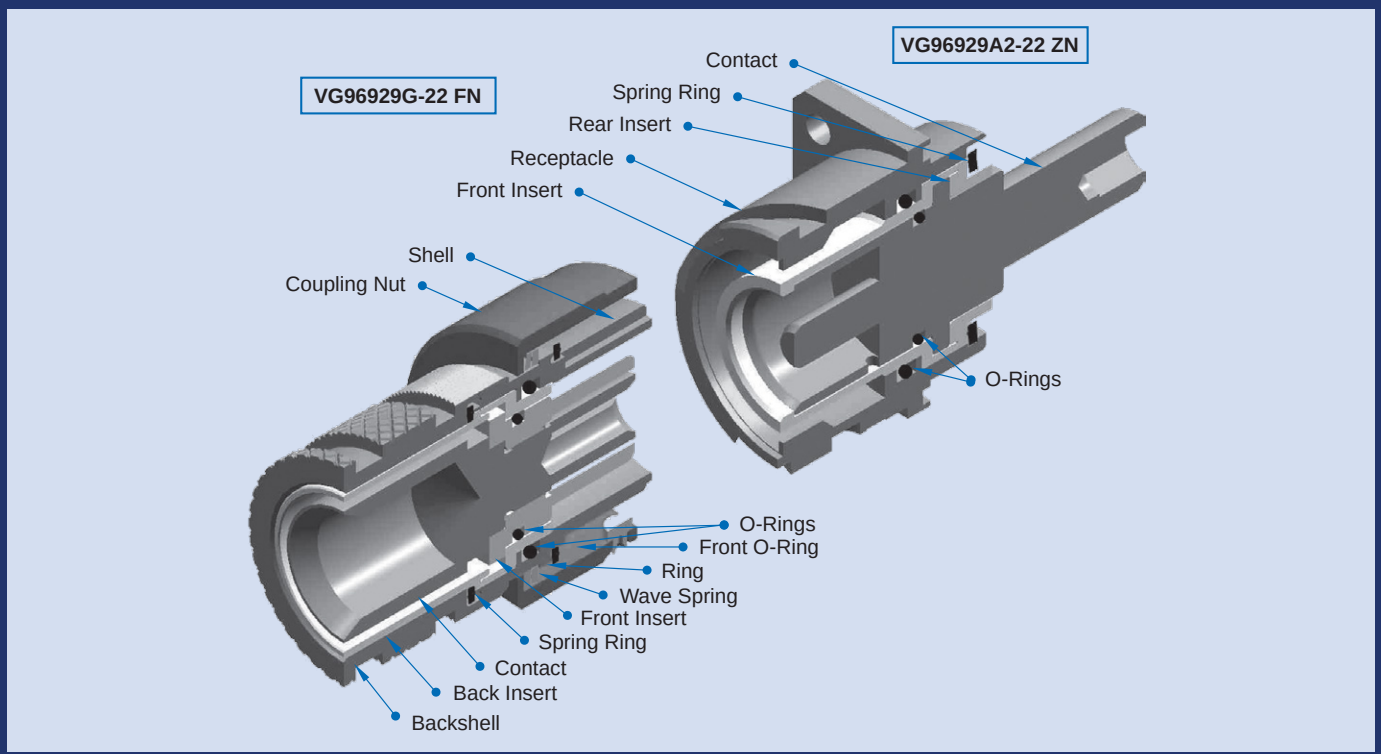
Harsh-environment, precision-machined marine bronze connectors

Low- to medium-voltage single-pole power connector versions

Single-pole versions of Super ITS - IGE marine bronze Seacrow™ connectors achieve high-performance working current and peak current, making them ideal for engines, power supplies, and power distribution boxes. Seacrow 5015-type reverse-bayonet connectors are qualified to VG96929 standards. Several backshells available in either straight or 90° elbows for convenient cable routing, IP67 standard, IP68 available.



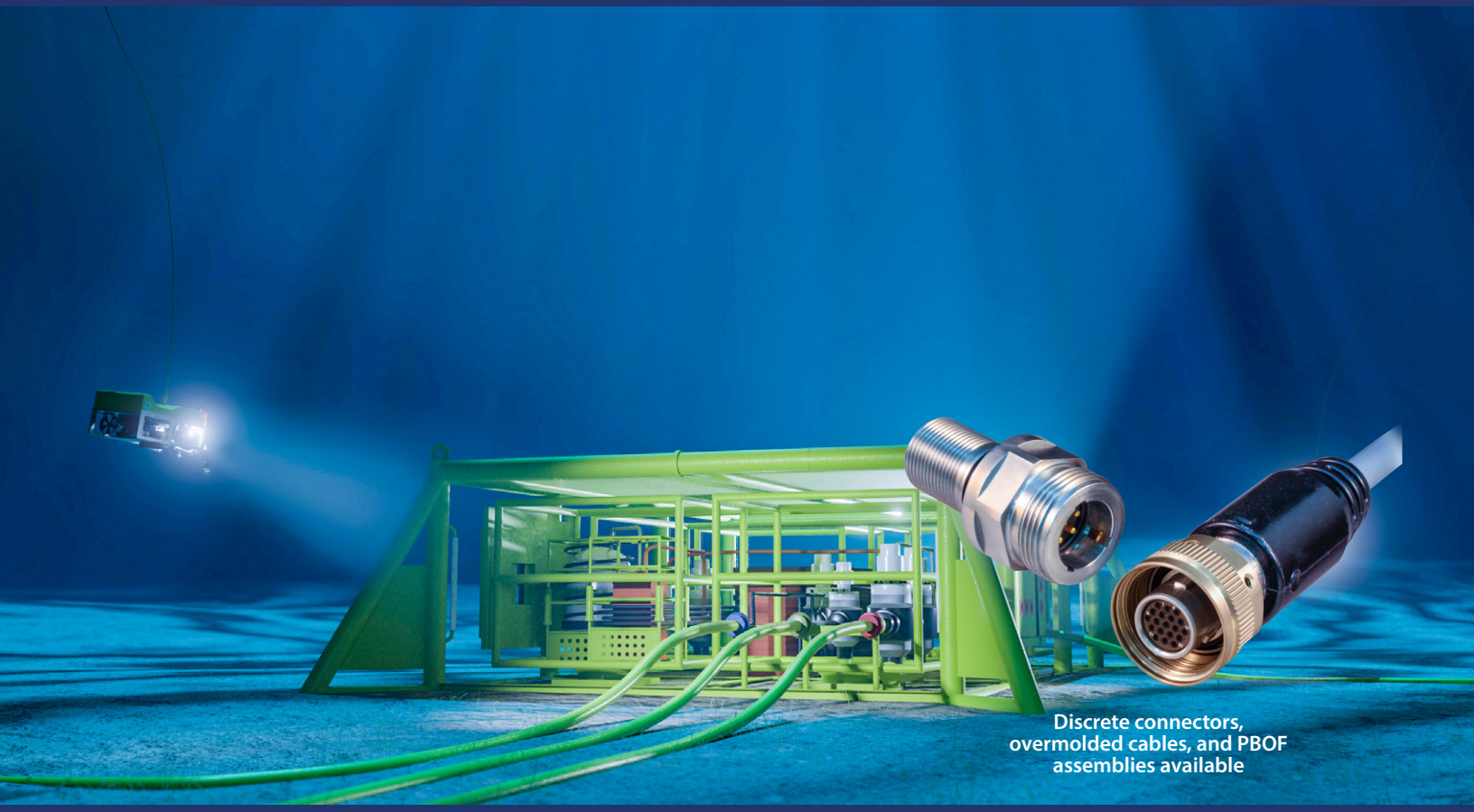
- **Precision-machined marine bronze alloy for superior corrosion resistance in seawater and other harsh environments**
- **Chemical-resistant Viton® gaskets and O-rings**
- **Single-pole high-power VG96929 qualified**
- **IP67 environmental sealing in mated condition; IP68 available**
- **High power, single pole connectors accommodating cables from 25 mm square to 240 mm square**
- **Keyed polarization**
- **Rugged reverse-bayonet mating**



OPTIMIZED
FOR USE WITH
SeaKing
PRESSURE-RATED CABLES

SeaKing™

SeaKing™ 700 dry-mate underwater connectors and mil-qualified / MCOTS cable assemblies



Discrete connectors, overmolded cables, and PBOF assemblies available

SeaKing 700 is an innovative 10K psi open-face rated underwater connector series that eliminates a broad range of mechanical design weaknesses found in many of today's high-pressure subsea connector families. From its double O-ring seals and retractable engaging nut, to its multi-keyed mating interface, the SeaKing underwater connector represents a far more reliable approach to subsea power and signal connectivity.

- **High density, small form-factor connector**
- **Dual O-ring seals ensure high-pressure performance for every leak path**
- **Signal, power, RF, and optical insert arrangements**
- **Stainless steel or titanium with anti-galling marine bronze engaging nut or cathodic delamination-free PEEK**
- **Full-mate inspection ports**
- **Easy O-ring replacement**
- **Key and keyway polarization**

10K PSI / 700 BAR OPEN-FACE RATING

SeaKing™ 700 High-Pressure Subsea Connectors

Electrical · optical · power · turnkey cables

Retractable engaging nut retention ring for easy O-ring inspection/ replacement.

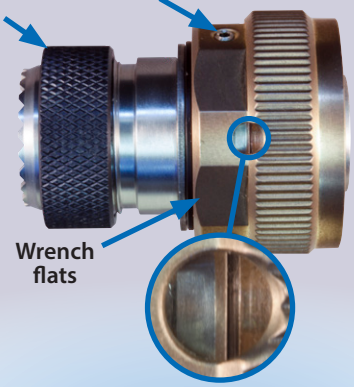
Optional overmold delamination ring accessory

Engaging nut set screw (3 places)

SeaKing Flange Connector Receptacles feature a removable spoked body and indexable flange.

Accessory thread and overmold features

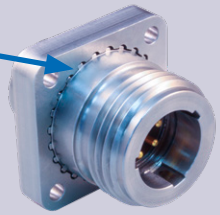
Multiple PBOF backshell indexing points

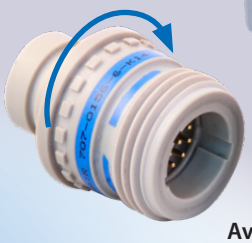


Wrench flats

Full-mate inspection port

Indexable flange





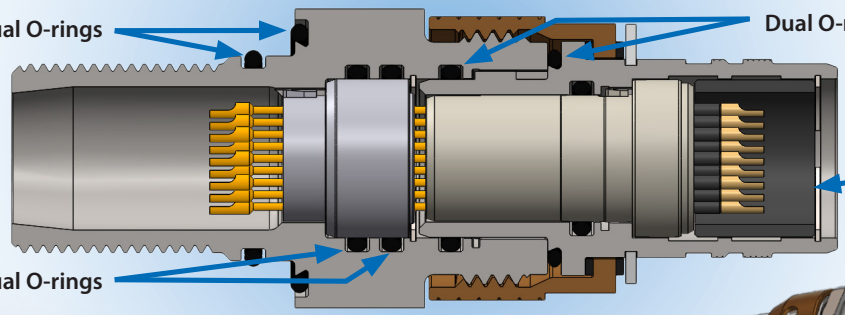
Disengage flange to rotate body for multiple clocking positions.

Available in both metal and PEEK

Replaceable Nitrile or Buna-N (NBR) O-ring seals facilitate fast and trouble-free field replacement.

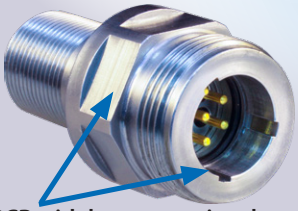
Dual O-rings

Dual O-rings

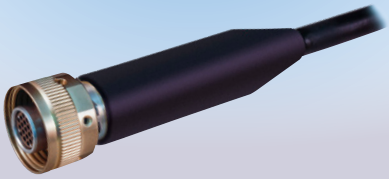


Dual O-rings

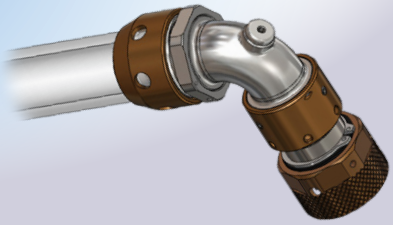
Available pressure-balanced oil filled (PBOF) back end for use with oil-filled cables.



BCR with keyway-assisted mating, polarization keys, and wrench flats for secure attachment to pressure bulkheads.

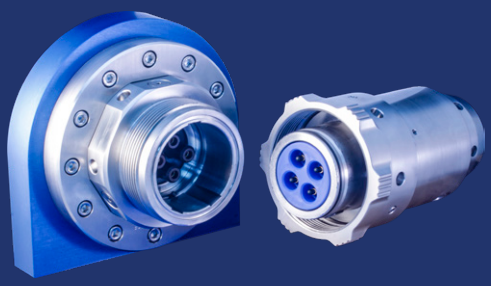


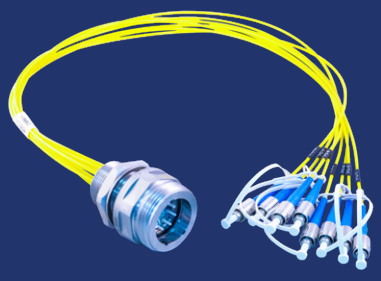
SeaKing™ 700 overmolded and pigtail "HotShot" cable assemblies are available from the factory with accelerated lead times as short as two weeks.



Revolutionary PBOF swivel assembly with kink-proof hose swivel, straight, 45°, and 90° routing, and superfast assembly.

SeaKing PEEK, SeaKing Power, and SeaKing Fiber Optic Configurations



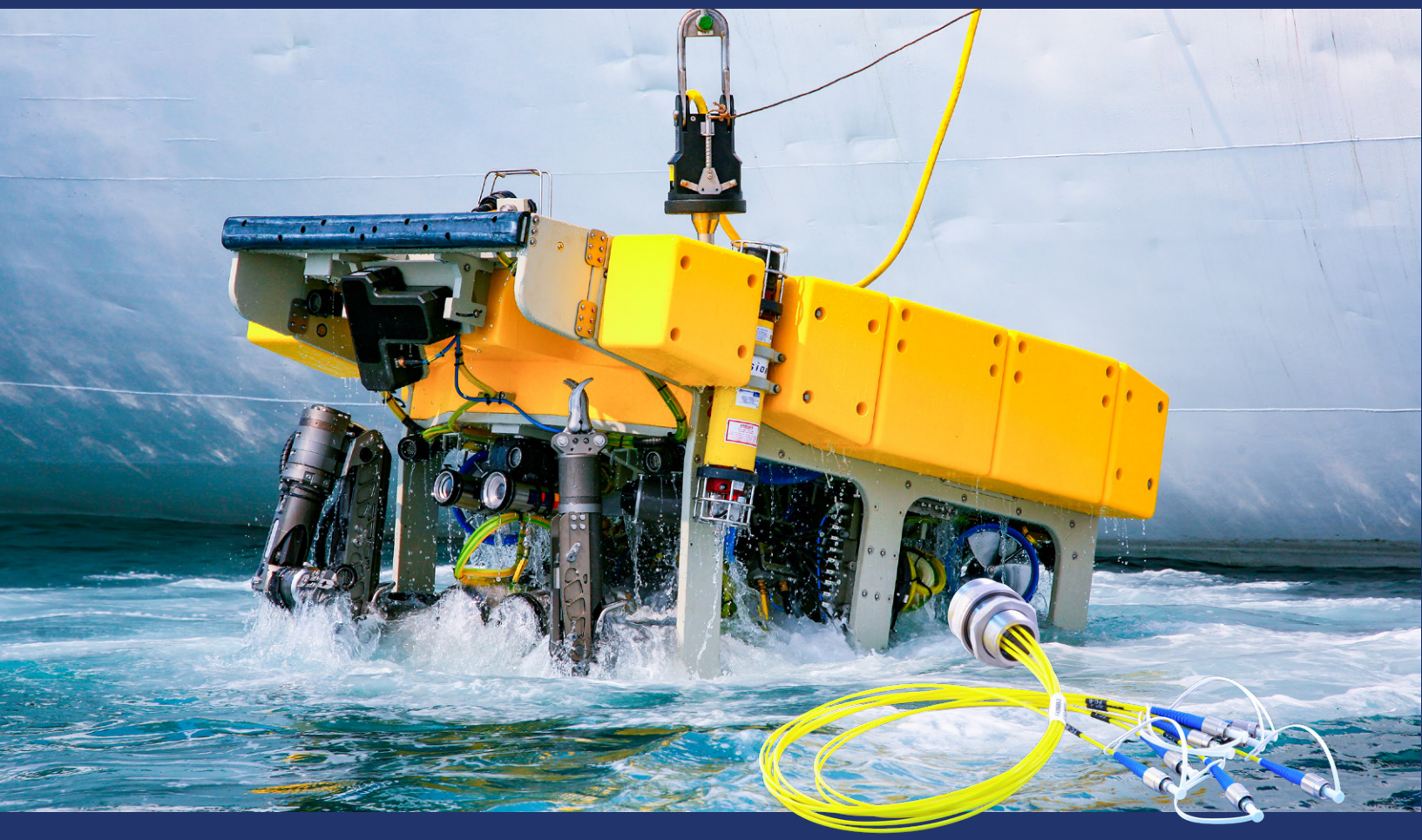


S T U V W X Y Z

OPTIMIZED
FOR USE WITH
SeaKing
PRESSURE-RATED CABLES

SeaKing™
Fiber

SeaKing Fiber Optic: open-face pressure rated optical connectors, cables and jumpers–low dB loss singlemode and multimode



Data-intensive applications such as towed array sonar systems, well logging and monitoring equipment, digital seismic streamers, as well as magnetic flux leakage and ultrasonic sensors used in intelligent pipeline inspection, are ideally suited for ruggedized high-pressure fiber optics. Fiber optic interconnect systems deliver ultra-high data bandwidth, immunity from RFI and other forms of electromagnetic interference, as well as reduced size and weight compared to high-speed copper. Glenair SeaKing™ Fiber Optic solutions include harsh-environment overmolded cable assemblies, multibranch inside-the-box jumpers, as well as Glenair signature pressure-balanced oil-filled (PBOF) cable assemblies with fiber optic media optimized for deep sea applications.

- **Environmental overmolded, pigtail, and PBOF butt-joint assemblies**
- **3K psi overmolded and 10K psi PBOF hydrostatic qualification test reports available**
- **Wide range of fiber and hybrid fiber/electric layouts**
- **Singlemode and multimode**
- **Optical performance: <1.0dB insertion loss per mated connection when measured @ 1310nm wavelength**

DEEP WATER

SeaKing™ Fiber Optic Interconnects

Open-face pressure-rated fiber optic connectors and cables

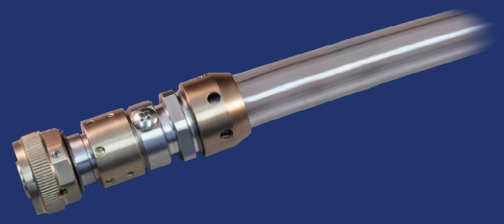
ENVIRONMENTAL OVERMOLDED FIBER OPTIC JUMPERS

Straight and right-angle cable routing

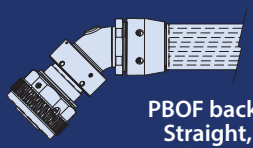
High-pressure fiber optic cable

Chemical-resistant Viton® or polyurethane overmolding

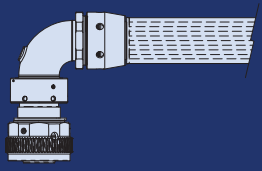
PRESSURE-BALANCED OIL-FILLED (PBOF) HIGH-PRESSURE FIBER OPTIC ASSEMBLIES



High-pressure fiber optic cable in clear polyurethane tubing

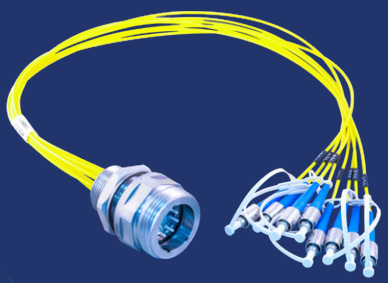


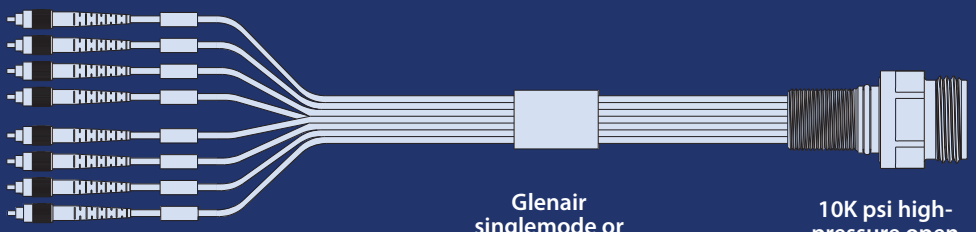
PBOF backshell, Straight, 45°, and 90° options



10K psi high-pressure open face SeaKing Fiber connector

SeaKing™ BCR OR FCR TO COMMERCIAL FIBER OPTIC PIGTAIL ASSEMBLY FOR I/O-TO-BOARD MODULE APPLICATIONS





Multibranch transceiver terminations

Glenair singlemode or multimode fiber optic cable

10K psi high-pressure open face SeaKing Fiber connector

SeaKing MUX FIELD-INSTALLABLE UMBILICAL CONNECTOR

The Glenair signature MUX (Multiplexer) field-installable subsea umbilical solution is a specialized electrical / fiber optic connector and cable system used in offshore and subsea operations to connect surface facilities (like drilling rigs or production platforms) with equipment on the seafloor, such as blowout preventers (BOPs), manifolds, or other subsea infrastructure.

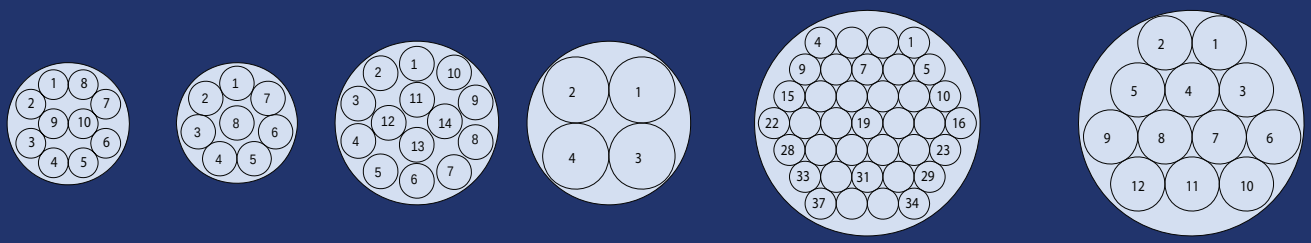
The Glenair MUX umbilical is designed to be assembled, terminated, or connected on-site, rather than being fully pre-assembled at our facility. This provides flexibility for operators to adapt the umbilical system to specific installation requirements and accommodate unanticipated on-site changes.

OPTIMIZED
FOR USE WITH
SeaKing
PRESSURE-RATED CABLES

SeaKing Series "HotShot" fast-turnaround, pressure-rated subsea cable

Glenair's vertically-integrated US manufacturing offers the most aggressive lead times for subsea cables in the industry. SeaKing "HotShot" cables are produced with our rigorous quality and qualification standards from in-stock component parts and materials and can be delivered as fast as 2 weeks.

HOTSHOT ASSEMBLY CONTACT ARRANGEMENTS (PLUG SOCKET INSERT SHOWN)



SIZE G		SIZE K		SIZE M	
G10	**G8**	**K14**	**K4**	**M37**	**M12**
10 Size #22 Contacts	8 Size #20 Contacts	14 Size #20 Contacts	4 Size #16 Contacts	37 Size #22 Contacts	12 Size #16 Contacts

PLUG ASSEMBLY: PREFERRED WIRING CONFIGURATIONS			
Contact Arrangement	**Maximum Wire Gauge**	**Furnished Cable P/N**	**Configuration**
G8	#20	000532	8X20 AWG Unshielded
G10	#22	000542	4x22 AWG shielded twisted pairs, Cat 5e includes drain wire
K4	#16	000536	4X16 AWG Unshielded
K14	#20	000534	14 X20 AWG Unshielded
M12	#16	000538	12X16 AWG Unshielded
M37	#22	000540	One 8X22 AWG (Cat 5e) 20X22 AWG (six twisted triads, one twisted pair 8X22 AWG (four twisted pairs), Cat 5e, includes drain wire

SUPER-FAST TURNAROUND

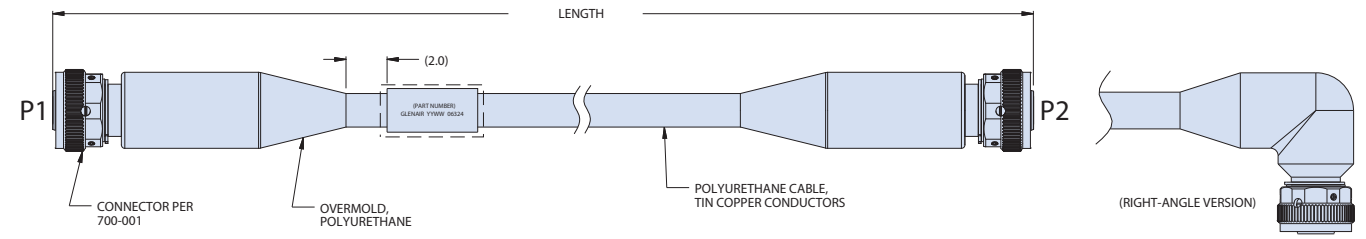
SeaKing "HotShot" Cables
High-Pressure Underwater Assemblies

Delivered as fast as 2 weeks

HOTSHOT CABLE - SeaKing PLUG ASSEMBLY

HotShot SeaKing Plug Assemblies	
Connector Styles	SeaKing CCP, straight or 90°
Cable Length	Standard Lengths: 2 ft., 4 ft., 6ft., 10 ft., 15 ft., 20 ft.
Insert Arrangements	G8, G10, K4, K14, M12, M37

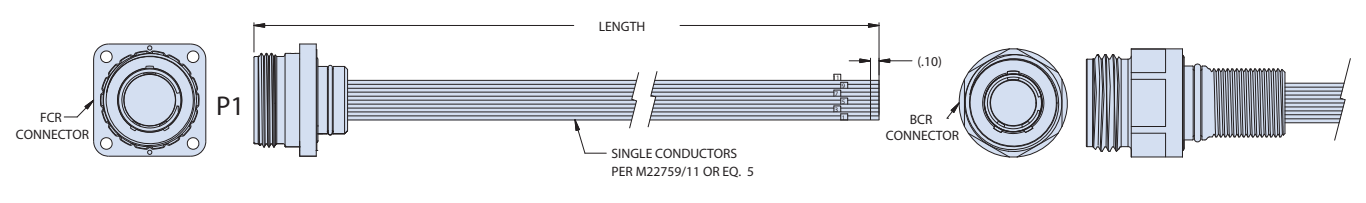
- 100% hydrostatic pressure tested
- Connector pressure ratings 10K psi mated
- 100% electrical test for shorts, dielectric withstanding voltage and insulation resistance IAW MIL-STD-202
- Also available as single-ended whips



HOTSHOT CABLE - SeaKing RECEPTACLE ASSEMBLY

HotShot SeaKing Receptacle Assemblies	
Receptacle Styles	SeaKing FCR and BCR
Insert Arrangements	G8, G10, K4, K14, M12, M37
Cable Length	Standard Lengths: 1 ft., 2 ft., 3 ft.
Wire Coloring	All White or 10-Color Repeating IAW MIL-STD-681

- 100% hydrostatic pressure tested
- Connector pressure ratings 10K psi mated
- 100% electrical test for shorts, dielectric withstanding voltage, and insulation resistance IAW MIL-STD-202
- Also available as single-ended whips



S T U V W X Y Z

OPTIMIZED
FOR USE WITH
SeaKing
PRESSURE-RATED CABLES

SeaKing™ Junior

High-density, dry-mate, harsh-environment connectors and cables for lighter-duty ROV applications such as lights and sensors

High-density Series 701 SeaKing Junior connectors are the perfect choice for harsh-environment Oil & Gas industry equipment that does not require open-face pressure rating, PBOF cable construction, or back-pressure performance. All designs are equipped with single piston-seal nitrile O-rings to withstand exposure to corrosive chemicals and high-pressure environments in the mated condition. These 5K psi pressure-rated connectors feature high-density crimp-contact or solder cup inserts and are significantly smaller than heavy-duty series 700 SeaKing interconnects. Connectors are backfilled with epoxy potting compound for easy incorporation into overmolded cables. Crimp-contact versions for field installation and repair are also available. SeaKing Junior is specifically designed for high-pressure, mated condition applications that do not require the extra fail-safe features and cost of an open-face rated solution such as SeaKing™ 700.

Harsh-environment polyurethane overmolded point-to-point cables with 10 GbE SpeedMaster insert

SeaKing Junior Bulkhead Connector Receptacle with hybrid signal and high-frequency RF contacts

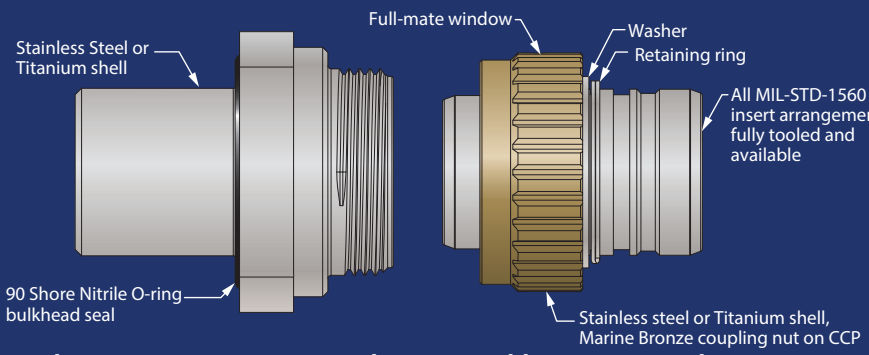
- **5000 psi (mated condition) pressure rated connector for overmolded (non-PBOF) applications**
- **High density, small form-factor solution—up to 50% reduction in size and weight compared to industry standard solutions**
- **Micro miniature high-density pin configurations: #22D, #20, #20HD, #16, #12, #8 signal, power, and high-speed datalink shielded contacts**

HIGH-DENSITY DRY-MATE

SeaKing™ Junior Connectors

5000 psi piston-sealed connectors and cables

SERIES 701 SEAKING™ JUNIOR MECHANICAL FEATURES AND CONFIGURATIONS



Flange Connector Receptacle **Cable Connector Plug**

Stainless Steel or Titanium shells, Marine Bronze coupling nuts

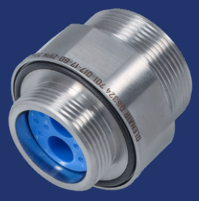
Available in nine sizes from 2 to 128 contacts, Series 701 connectors feature stainless steel or marine bronze shells. Nitrile O-rings resist high temperature and corrosive chemicals.

5,000 psi

These connectors withstand up to 5,000 psi hydrostatic pressure in a mated condition.

Series 701-011 Cable Connector Plug (CCP) supplied as overmolded cables only

Series 701-016 Flange Connector Receptacle (FCR) supplied as discrete connectors or in pigtail assemblies



Series 701-017 Bulkhead Connector Receptacle (BCR) supplied as discrete connectors or in pigtail assemblies

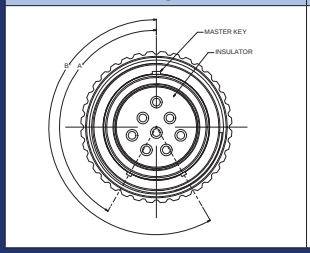
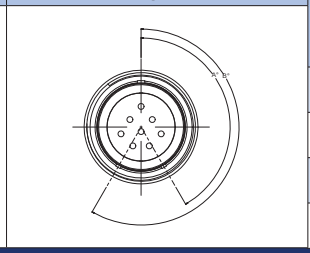
SEAKING™ JUNIOR CONTACT SPECIFICATIONS, MATERIALS AND FINISHES, AND CRIMP TOOLS

SERVICE RATINGS			
Service Rating	Sea Level DWV (VAC)	Operational	
		VAC	VDC
M	1300	433.3	612.8
N	1000	333.3	471.4
I	1800	600.0	484.5
II	2300	766.7	1084.2

CURRENT RATING		
Contact Size	Amps	Wire Size
#8	46.0	8 AWG
#10	33.0	10 AWG
#12	23.0	12-14 AWG
#16	13.0	16-20 AWG
#20	7.5	20-24 AWG
#22D	5.0	22-28 AWG

PERFORMANCE SPECIFICATIONS	
Insulation Resistance	5000 megohms at 500 VDC
Operating Temperature	-65° C to +175° C
Hydrostatic Pressure	5,000 psi mated condition, tested per ISO 13628-6
Durability	300 mating cycles

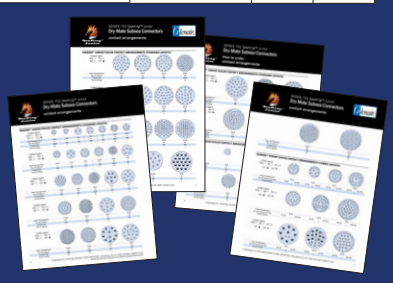
SERIES 701 POLARIZATION

Plug	Receptacle
	

Key Position	Key Rotation	
	A°	B°
Normal (N)	150°	210°
A	75°	210°
B	95°	230°
C	140°	275°

MATERIAL AND FINISH	
Shells, Jam Nuts	Stainless steel or Titanium
CCP Coupling Nuts	Marine bronze, unplated
Contacts	Copper alloy, gold plated.
Insulators	Composite thermoplastic
Retaining ring and hardware	Stainless steel
Interfacial Seal (pin inserts only) and Grommet	Fluorosilicone
O-rings and Seals	Nitrile, 90 shore Viton®, 90 shore Viton® O-rings offer wider temperature range

CONTACT CRIMP TOOLS		
Contact Size	Crimp Tool	Positioner
#12	809-136	809-137
#16	809-136	809-137
#20	809-136	809-137
#22D	809-015	K42 Pin
		K40 Skt



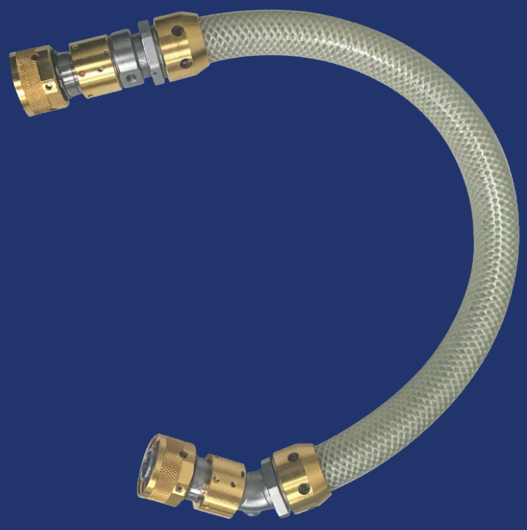
Tooled insert arrangements include high-density and combo layouts for Coax, Twinax, and El Ochito® contacts

S T U V W X Y Z

OPTIMIZED
FOR USE WITH
SeaKing
PRESSURE-RATED CABLES

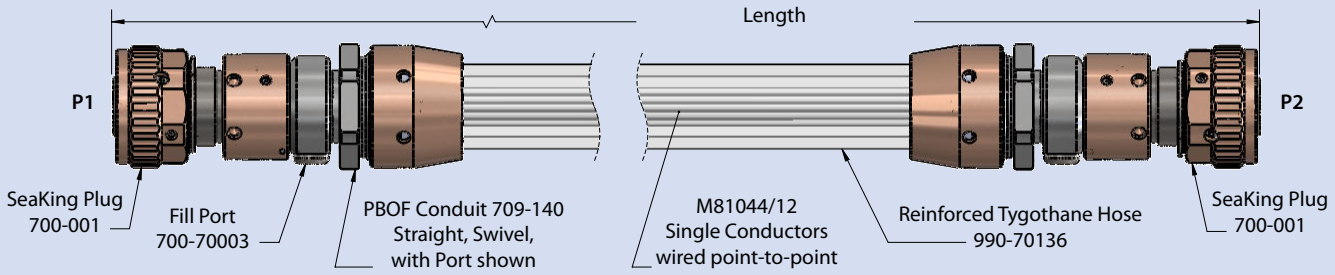
SeaKing™

SeaKing™ PBOF 10K psi Pressure-Balanced Oil-Filled connectorized assemblies

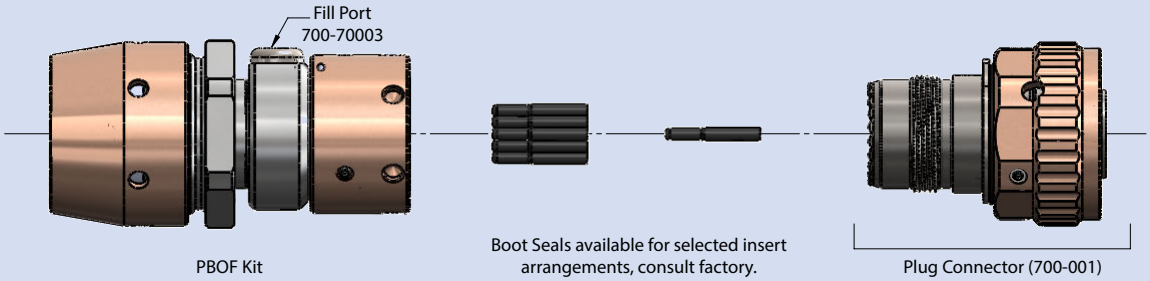


10K psi open-face SeaKing PBOF wired and connectorized assemblies, fittings, and accessories with Glenair signature swivel hose attachment accessories

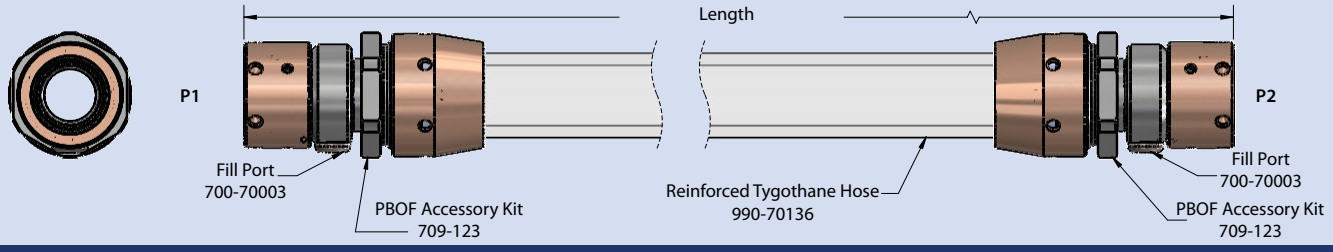
WIRED / CONNECTORIZED PBOF CONDUIT ASSEMBLIES



CONNECTOR / BACKSHELL / BOOT SEAL ASSEMBLY



UNWIRED PBOF CONDUIT ASSEMBLIES



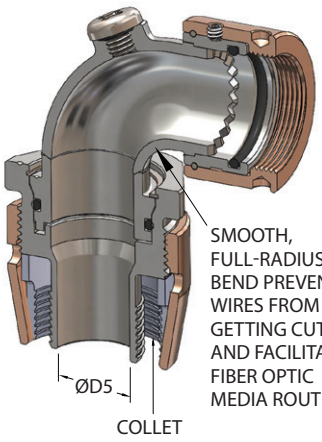
10K PSI / 700 BAR

SeaKing™ PBOF Assemblies

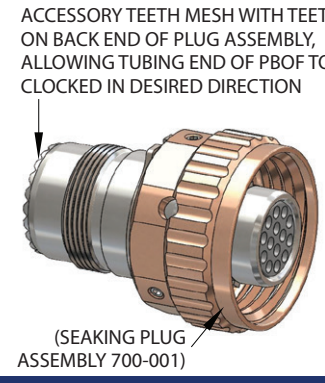
Wired and connectorized turnkey assemblies

REVOLUTIONARY PBOF SWIVEL HOSE ATTACHMENT ACCESSORIES

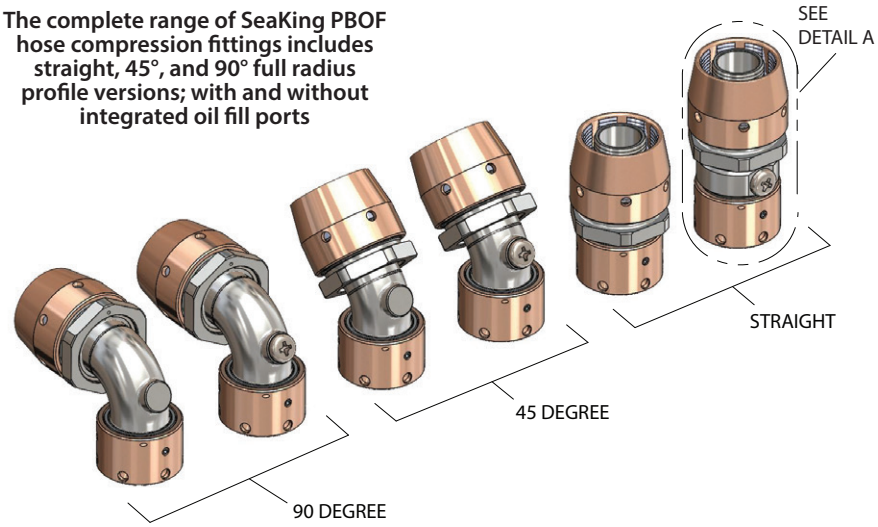
Hose barb fittings for PBOF assemblies are the perennial weak link in subsea oil & gas applications. Kinked and twisted hoses, leaky fittings, corroded hose clamps, and other performance problems characterize most existing solutions. The Glenair PBOF swivel hose attachment for SeaKing™ 700 series connectors solves these problems and more. Designed from the sea floor up to perform flawlessly and reliably, this revolutionary attachment puts an end to the long list of field maintenance problems associated with oil-filled cable applications.

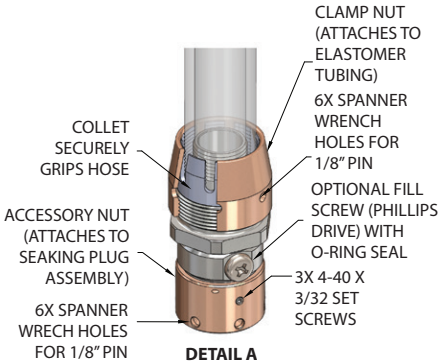


- **Straight, 45°, and 90° "full radius" profile hose routing**
- **Hose angle adjustment feature reduces risk of oil leakage**
- **Corrosion-resistant materials used throughout**
- **Threaded couplers with safety set-screws for fail-safe leak and decoupling protection—no special tools required for assembly**
- **Compact PBOF compression fitting with optional 340° swivel-action hose for an extra degree freedom of routing in compact situations**
- **Support for the broad range of hose diameters and wall thicknesses**
- **Collet-type hose-clamp securely and uniformly grips the hose with 360° of uniform pressure**



The complete range of SeaKing PBOF hose compression fittings includes straight, 45°, and 90° full radius profile versions; with and without integrated oil fill ports





S T U V W X Y Z

OPTIMIZED
FOR USE WITH
SeaKing
PRESSURE-RATED CABLES

SeaKing™
SEVEN HUNDRED
PEEK

SeaKing™ PEEK composite thermoplastic interconnects for anti-cathodic delamination applications

Discrete connectors, overmolded cables, and PBOF assemblies available

SeaKing 700 is an innovative underwater connector series that eliminates a broad range of mechanical design weaknesses found in many of today's high-pressure subsea connector families. From its double O-ring seals and retractable engaging nut, to its multi-keyed mating interface, the SeaKing underwater connector represents a far more reliable approach to subsea power and signal connectivity. The series is available in stainless steel or titanium, as well as PEEK fiber-reinforced composite thermoplastic. PEEK shell material is electrically non-conductive and galvanically inert for superior corrosion resistance and immunity from cathodic delamination even in mixed-material configurations. SeaKing PEEK composite thermoplastic shares all the same insert arrangements, wire support, cabling, and PBOF capabilities as metal versions.

- **Non-conductive. Superior corrosion resistance, durability, and immunity from cathodic delamination**
- **Same high-pressure performance as stainless steel**
- **Lighter weight with lower deployment costs**
- **Low magnetic signature**
- **Galvanically compatible with all metal materials**
- **Full range of SeaKing 700 series insert arrangements: power, signal, and high-speed**

SERIES 700 10K PSI / 700 BAR / 7000 M

SeaKing™ PEEK Composite Connectors

700 Series with non-metallic PEEK shells

SeaKing™ PEEK

Corrosion-free / cathodic-delamination free SeaKing PEEK connectors utilize an innovative indexable flange and rugged overmolding for optimized cable routing in complex installations such as on the next-generation Remote Operated Vehicle shown below.
These Glenair signature connectors are constructed with a glass-filled polymer composite that delivers the same high-pressure performance as stainless steel but at a fraction of the weight. A lighter-weight system allows operators to reduce deployment costs.

ABOUT GLENAIR 100% MOLDED PEEK COMPOSITE THERMOPLASTIC CONNECTORS

For applications subject to cathodic delamination, Glenair produces its 10K psi open-faced seal SeaKing in a composite thermoplastic configuration called SeaKing PEEK. SeaKing PEEK is made from a 30% glass-filled polymer composite material that delivers the same high-pressure performance as stainless steel, with superior corrosion protection, life-of-system durability, and complete immunity from cathodic delamination—a common failure mechanism in polymer-to-metal bonds in cathodically-polarized subsea equipment.

Metal-connector overmolded cable assemblies that have been deployed subsea for more than 3 to 5 years routinely suffer delamination between the overmold and the conductive metal shell, resulting in cable failure. An additional advantage of SeaKing PEEK is lighter weight, which allows for a smaller deployment infrastructure (operations jargon for a smaller boat)—translating to reduced deployment costs—a critical concern considering deployment can be as much as 50%-60% of the overall cost of the system.

In military/defense applications, such as sonar-based underwater detection and tracking systems, the replacement of metal connectors with composite plastic offers the critical benefit of a reduced magnetic signature, rendering equipment invisible to sensors that easily detect metallic equipment. Importantly, PEEK material is galvanically compatible with metal housing materials including aluminum, SST, titanium, and bronze, eliminating the need to galvanically match SeaKing PEEK with other components in the system.

700-201 cable connector plug (CCP), PEEK

700-206 Glass reinforced epoxy or glass Hermetic seal insert, flange connector receptacles (FCR), PEEK

700-207 Glass reinforced epoxy or glass-to-metal seal insert, bulkhead connector receptacle (BCR), PEEK

S T U V W X Y Z

OPTIMIZED
FOR USE WITH
SeaKing
PRESSURE-RATED CABLES

SeaKing
POWER

SeaKing Power 1–6.6kV connector designs for deep sea oil & gas primary power junctions

Blow Out Preventer (BOP)
Photo: Bureau of Safety and Environmental Enforcement

SeaKing Power connector designs are rated up to 10K psi in open-face or mated condition. These bespoke high-voltage (1–6.6kV) and high-amperage (up to 50 Amps) solder-cup and crimp-contact connectors are ideally suited for deployment in PBOF and umbilical termination cable configurations for primary power junction applications. SeaKing Power is a signature Glenair capability—with design and application engineering geared to meet exact customer requirements.

Available SeaKing Power Design Features

- **Fully redundant dual O-ring sealing**
- **Indexable flange or threaded bulkhead designs**
- **Keyed mating interface for mismate prevention**
- **Cable Connector Plug (CCP), Flange Connector Receptacle (FCR), and Bulkhead Connector Receptacle (BCR) configurations**
- **Sealed PBOF cable interface**

HIGH VOLTAGE SUBSEA

SeaKing™ Power Connectors

CCP, FCR, and BCR configurations

CABLE CONNECTOR PLUG (CCP)

SeaKing™ Power
Cable Connector Plug (CCP)

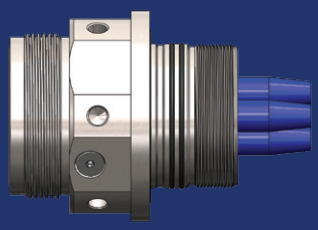
- PBOF-compatible cable connector plug designs
- Super duplex stainless steel or titanium construction with glass-reinforced thermoplastic insulator
- Backshell accessory attachment interface
- Aggressive coupling nut knurling for easy field mating
- Spanner wrench holes and coupling nut lock set screws for foolproof resistance to mechanical force decoupling
- Available conductor sealing boots protect solder cup and crimp wire-to-contact terminations in select insert arrangements in the event of a flooded hose
- Industry-standard power cable accommodation

FLANGE CONNECTOR RECEPTACLE (FCR)

SeaKing™ Power
Flange Connector Receptacle (FCR)

- FCR delivers up to 10K psi sealing in both mated and open-face condition
- Indexable flange allows receptacle shell rotation for 360° routing flexibility of right-angle-mating cable plugs
- Super duplex stainless steel or titanium shells for complete compatibility with mating CCP
- Available wire sealing boots ensure reliable environmental protection of cable-to-connector interface
- Custom insert arrangements

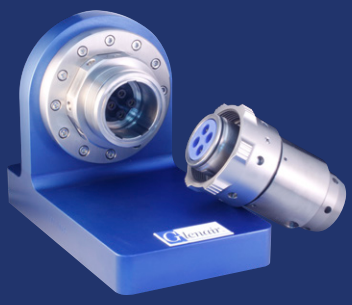
BULKHEAD CONNECTOR RECEPTACLE (BCR)



SeaKing™ Power
Bulkhead Connector Receptacle
(BCR)

- BCR is designed for direct threaded bulkhead mounting
- Supplied washer, mounting nut, and bulkhead-mate O-ring seals ensure secure sealing and grounding to equipment housing
- BCR shell equipped with both wrench flats and spanner wrench holes for convenient installation regardless of tool choice
- Custom insert arrangements
- Threaded backshell accessory interface

AVAILABLE HYDROSTATIC TEST LAB REPORTS



Glenair maintains one of the Subsea Oil & Gas industry's premier hydrostatic test labs here in our Southern California factory. All SeaKing Power designs as well as production parts for customer use are subjected to rigorous pressure testing up to and beyond rated 10K psi. Test reports are available for existing SeaKing Power type products and may also be supplied for new customer-bespoke designs.

OPTIMIZED
FOR USE WITH
SeaKing
PRESSURE-RATED CABLES

SeaKing™
WetMate

SeaKing™ WetMate

Diver-Mate · Stab-Plate · ROV-Mate 10K psi open-face rated wet-mate connector

GLENAIR SEAKING WETMATE INTERCONNECT NOW IN FINAL QUALIFICATION TESTING: The SeaKing 700 series of high-pressure Oil & Gas industry underwater connectors will see a major expansion with the introduction of an oil-bladder filled, field-serviceable wet mate connector compliant to API Standard 17F. The new series will be supplied in diver, stab-plate, and ROV-mate connectors and is uniquely engineered for use with aerospace-grade split-tine crimp contacts with state-of-the-industry sealing and Glenair's commitment to quality, reliability, and service. SeaKing WetMate features a solder-free rear crimp contact body with field-replaceable insert stack and 10K psi mated and open-face rating. Supplied in stainless steel or titanium with marine bronze coupler, as well as glass-filled composite thermoplastic PEEK for advanced deep-sea corrosion protection and cathodic delamination protection.

Innovative crimp kit wire termination: fully sealed and field-replaceable with precision-machined spanner retention nut and individual wire sealing boots

TECHNICAL FEATURES

- 1KV AC-rated
- #10 AWG wet-mate contacts, bladder type
- Stainless steel / titanium shell bodies with PEEK inner insert molded assemblies
- Natural rubber inner/outer bladders and cable boots
- 4, 8, and 12 contact arrangements
- 10K psi mated and open-face rating
- Operating depth up to 20,000 ft. (10K psi)
- Field-replaceable insert stack, contacts, and sealed wire termination zone

10K PSI OPEN-FACE

SeaKing™ WetMate

Diver-mate · stab-plate · ROV-mate

SEAKING WETMATE DESIGN FEATURES AND ADVANTAGES

- **Precision spanner nut retention plates**
- **Socket insert module (factory oil-filled) removable for field maintenance**
- **Crimp contact materials and design IAW aerospace specifications**
- **Field-replaceable overmolded pin contacts with dual O-rings**
- **Split-tine socket contacts with Glenair low-resistance Crown Ring feature**
- **Indexable flange for top mating position clocking**
- **High-conductivity copper alloy provides lower contact resistance and higher heat dissipation**
- **Cable assembly termination rear crimp kit (factory or field)**
- **Proven crimp contact used throughout military / commercial industry. (No soldering required)**
- **Utilizes standard crimp tooling providing a robust termination every time**
- **Rugged Stub-ACME mating thread**

PERFORMANCE SPECIFICATIONS	
Requirement	**SeaKing WetMate**
Operating Depth	20,000 ft, 6500 m, 10,000 psi
Test Pressure	15,000 psi (1.5 X over operating pressure)
Operational Temperature	Seawater: -5°C to +60°C Air: +20°C to +50°C
Storage Temperature	40°C to 70°C
Mate/Demate Cycles	1000 total, 200 in turbid seawater
Mating Force	112 lbf max (reference)
Demate Force	112 lbf max (reference)
Design Life	30 years
Circuit Count	4, 8, or 12
Max Operating Current	30 – 35 Amps at depth, 15 – 18 Amps in Air
Max Operating Voltage AC	1.0 kVAC (P-G), 1.73 kVAC (P-P)
Max Operating Voltage DC	3.3 kVDC
Insulation Resistance	> 10 g ohm @ 1000 V
Contact Resistance	< 10 m ohm, per contact
Max Wire Conductor size	4mm² (12 AWG)

Specification for 4-way, 3mm pin prototype, Crimp version - 30 amps, Voltage 1.0 kVAC (P-G), 1.73 kVAC (P-P), 3.3 kVAC 10,000 psi Rated (7000m depth) Test 1.5 MOS (15,000 psi)

OPTIMIZED
FOR USE WITH
MIL•STAR™
HIGH-PERFORMANCE HOOKUP WIRE AND CABLE

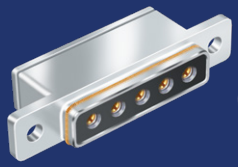
SERIES 790™ HD

Micro miniature high-density crimp-contact rectangular with advanced environmental and EMC performance

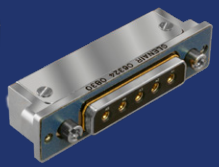
Series 790 is the advanced-performance, aerospace-grade crimp-contact rectangular connector

- Crimp, PCB, fiber optic, coax, power, and pitot
- Precision machined aluminum shells sealed to IP67
- High-density #23 contact arrangements set on .076 centers
- Blind mating for rack and panel applications
- Environmental, hermetic, and filter versions
- Integrated ground spring for improved EMI shielding
- Low-profile (non scoop-proof) mating interface

SERIES 790 MICRO-CRIMP PRODUCT SELECTION GUIDE

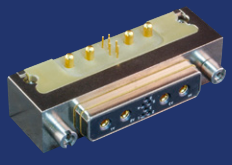


Crimp terminated cable connectors



Crimp terminated panel mount connectors

Panel mount connector with auxiliary sealing



90° PCB panel mount and free-standing connectors

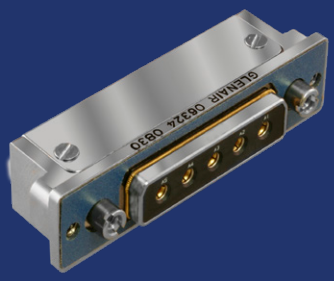
HIGH-DENSITY

Series 790 Micro-Crimp

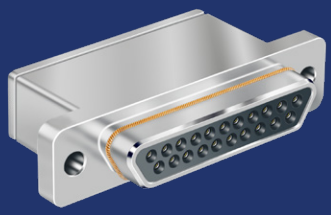
Micro miniature crimp-contact rectangular

SERIES 790 MICRO-CRIMP TECHNOLOGY SHOWCASE

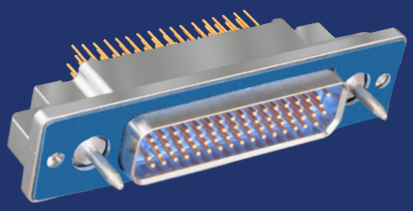
31 insert arrangements supporting signal, power, and high-speed contacts



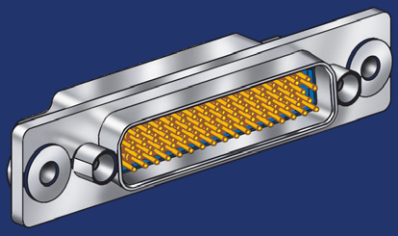
Integrated EMI Shroud
Right angle printed circuit board connectors have an EMI shroud to prevent electromagnetic interference.



Integrated Ground Spring
Series 790 plugs are available with auxiliary EMI springs for superior EMC performance.

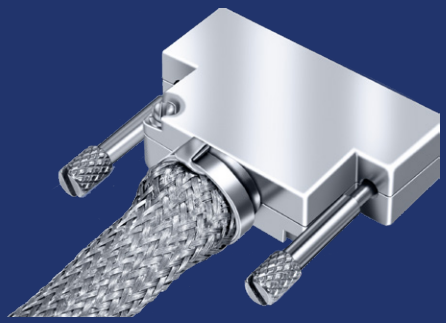


Guide Pins for Blind Mating
Series 790 panel connectors can be configured with guiding hardware for module-to-chassis applications.



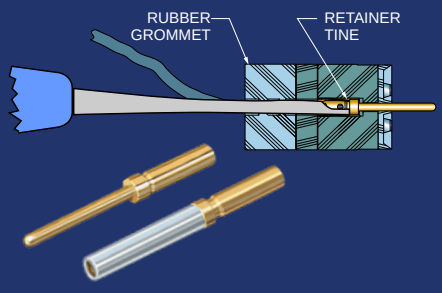
Float Mount Connectors
790-050P connectors are equipped with rear-panel float mounting assemblies to provide additional mounting lee-way in rack and panel applications.

EMI Backshell Adapters
These two-piece adapters fit into a groove on Micro-Crimp cable connectors. Attach to connector with screws (provided). Elliptical banding platform provides ample room for large wire bundles.



Jackpost Hardware Options
A complete range of jacking hardware is available including captivated, low-profile and extended versions.

Shield Termination System
Glenair Band-Master Advanced Termination System delivers turnkey shield termination tools, bands, and calibration services.



Rear-Release Crimp Contacts
Series 790 Size #23 contacts conform to the AS39029 requirements but are not covered by a slash sheet. Size #16 and size #12 contacts are standard "QPL" contacts used in MIL-DTL-38999 connectors.

OPTIMIZED
FOR USE WITH
MIL•STAR™
HIGH-PERFORMANCE HOOKUP WIRE AND CABLE

SERIES 791™ Scoop-Proof

Precision-machined micro-miniature rectangular connector for demanding aerospace applications

Originally designed for NASA's Orion project, the 791's small size and blind mate capability make it a perfect choice for 2U and 3U electronics modules. Applications include radars, satcom, exoatmospheric vehicles, flight avionics, power distribution units, and satellite instrumentation.

Prevent mis-mating with Mod Code 555 special keying option

Polarized / keyed shells prevent mis-mating and allow designers to specify identical layouts side-by-side without risk of circuit damage

- Dual-lobe small form factor aerospace-grade rectangular connector approved for manned space flight
- Scoop-proof recessed pin contacts
- 37 arrangements; 12 shell sizes; size 23, 16, 12 and 8 contacts
- Environmental
- EMI shielded
- Guide pins for blind mate modules

SCOOP-PROOF

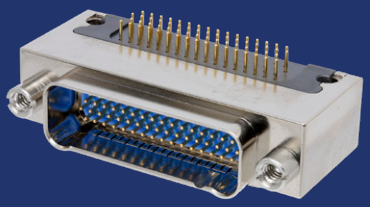
Series 791 Dual-Lobe Micro Miniature Crimp-Contact Rectangular

For demanding space applications

FEATURES OF SERIES 791 COMPARED TO MICRO AND D-SUBMINIATURE CONNECTORS

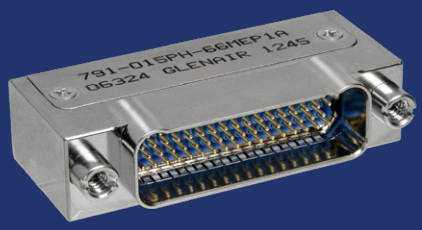
Higher-density crimp-contact insert arrangements

High-density power and mixed power-and-signal arrangements

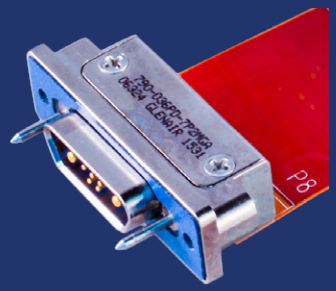


Fully-shrouded straight and right-angle PC tail configurations

Panel-mount design with O-ring sealing



Scoop-proof mating interface

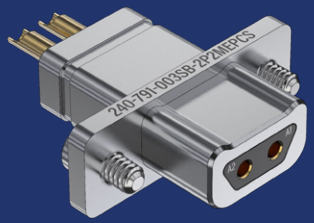


Float-mount designs for rack-and-panel applications

Rugged-construction dual polarization lobes

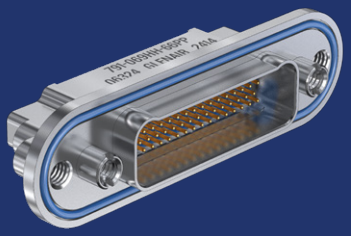
Special keying option prevents mis-mating

Integrated banding porch for shield termination



EMI / RFI filter receptacles

High-temperature +300°C ThermaRex configurations



Glass-to-metal seal hermetic connectors

S T U V W X Y Z

OPTIMIZED
FOR USE WITH
SpeedLine™
High-Speed Protocol Cables

SERIES 792™ High-Speed

Micro miniature rectangular connector with El Ochito contacts for high-speed aerospace applications

The robotics workstation inside the ISS cupola

The Series 792 connector brings high-speed data-rate performance to the Glenair Series 79 rectangular family. Size 8 cavities accept standard Quadrax or El Ochito® shielded octaxial contacts making it a perfect choice for radars, weapons systems, mission computers and displays, communications gear, and more.

HIGH-SPEED PROTOCOL CAPABILITY:

- 10GBase-T
- 40GBase-T
- HDMI 2.0
- DisplayPort 1.4
- DVI Single / Dual
- eSATA / SATA 3.0
- SpaceWire
- USB 3.2 Gen 1x1

El Ochito®

- **High-speed Ethernet, USB 3.0, HDMI, and DisplayPort**
- **PCB-mount and cable connectors**
- **Scoop-proof interface**
- **12 arrangements, 6 shell sizes, from 1 to 9 way**
- **Precision-machined dual-lobe polarized shells**
- **Environmentally sealed**
- **Integrated EMI shielding and grounding**
- **Blind mating**

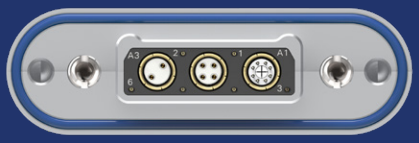
HIGH-SPEED

Series 792 Micro-Crimp Contact Rectangular

With high-density El Ochito octaxial shielded contacts

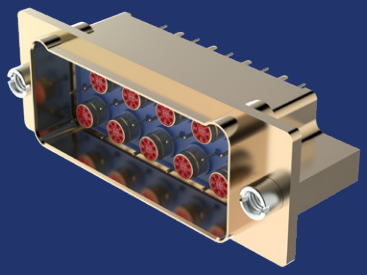
DESCRIPTION	REQUIREMENT	PROCEDURE / NOTES
Operating temperature	-65° to +175°C	EIA-364-32 Test Condition IV
Current rating	1.5 Amps (datalink contacts) 5 Amps (Size #23 contacts)	Datalink contacts tested: El Ochito® White
DWV (sea level)	750 VAC (Size #23 contacts) 1000 VAC (datalink contacts)	EIA-364-20
Insulation resistance	5000 MΩ minimum	EIA-364-21
Contact resistance, 25°C	55 millivolt maximum	EIA-364-06, 1.0 A test current, #24 AWG wire

DESCRIPTION	REQUIREMENT	PROCEDURE / NOTES
Shell-to-shell resistance	2.5 millivolt maximum	EIA-364-83
Shielding effectiveness	Frequency / Attenuation dB 100 / 75 1000 / 50 3000 / 44 6000 / 38 10000 / 35	EIA-364-66
Ingress protection	IP67 rating	IEC-60529



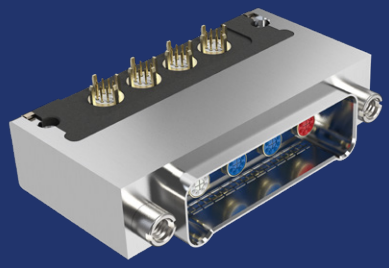
Twinax, Quadrax and El Ochito®

Connectors are available in three configurations: twinax for a single high-speed wire pair, quadrax for two data pairs, and El Ochito® for four.



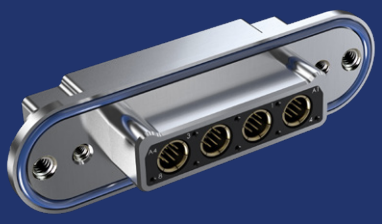
Up to 9 data ports

The Series 792 Size F with nine ports is the largest connector in the series and is the only two row version. Sizes A – E, with one to five ports, are single row.



PCB Connectors

Series 792 PCB connectors have straight or right angle PC tails. Contacts are non-removable and are epoxy sealed.

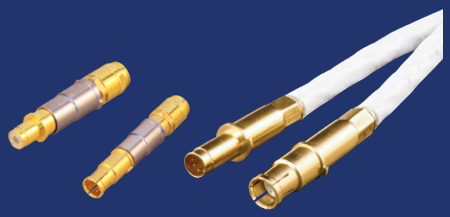


Panel Mount

Panel mount connectors have O-ring and threaded mounting holes for easy installation and are available with guide pins and float mounts.

Cable Connectors

High-speed shielded contacts snap into Series 792 cable connectors and are easily removed with a standard plastic tool.



El Ochito® Contacts and Jumpers

Available as catalog offerings for Ethernet, SuperSpeed USB, HDMI, DisplayPort, SATA, and other multi-gigabit protocols.

El Ochito® octaxial contacts are intended for harsh environment military and aerospace data networks, and provide up to 50% total weight savings and 20 times faster data rates compared to legacy quadrax-based solutions.

El Ochito® White	El Ochito® Blue	El Ochito® Red
GbE 10GbE 40GbE	USB 3.0	HDMI, SATA, DisplayPort

- **Snap-in, rear release octaxial contact for use with aerospace-grade high-speed cable**
- **Environmentally protected**
- **Support for all major high-speed datalink protocols**
- **Significant size and weight savings compared to quadrax**

S T U V W X Y Z

OPTIMIZED
FOR USE WITH
MIL•STAR™
HIGH-PERFORMANCE HOOKUP WIRE AND CABLE

SERIES 793™ Dual-Bay

Dual-bay rack-and panel scoop-proof micro-crimp rectangular

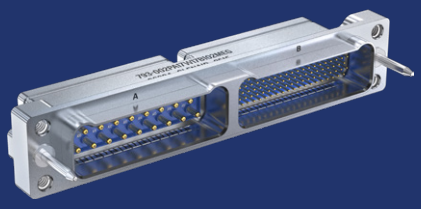
The Series 793 Dual-Bay Micro-Crimp is a high-reliability aerospace-grade rectangular connector with two inserts for up to 204 contacts. Intended for vehicular and avionics equipment, the Series 793 Dual-Bay saves size and weight compared to legacy rack-and-panel connector designs. The tight-tolerance guide-pin equipped dual-lobe shell assures accurate alignment in rack-and-panel applications. Scoop-proof pin contacts are recessed to prevent damage.

- **Horizontal and vertical configurations**
- **Optimized for blind mate applications with robust guide hardware and mounting features**
- **Side-by-side or top-and-bottom dual-bay interface enables smaller footprint**

DUAL-BAY

Series 793 Rack-and-Panel

Side-by-side and top-and-bottom configurations



Connector Types

Crimp, Rear Release

793 connectors have metal retention clips inside the contact cavities. Wired contacts snap into connector bodies and can be removed with a release tool. Size 23 contacts are included with connector. Other sizes are ordered separately.

PCB Termination

793 connectors are available in straight tail or 90° PCB versions. Connectors have factory-installed PCB terminals. Terminals are epoxy sealed and are compatible with conformal coatings.

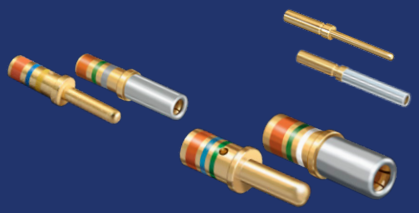
Contact Sizes

Size 23 (#22 – #28 AWG wire)

Size 16 (#16 – #20 AWG wire)

Size 12 (#12 – #14 AWG wire)

Size 8 (#8 AWG wire)



Panel Mounting

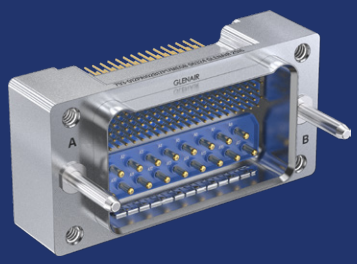
Space-saving Series 793 connectors are designed for rear panel installation. Panel mounting holes have stainless steel #6-32 self-locking threaded inserts.

Environmental Protection

793 crimp connectors have fluorosilicone wire grommets and interfacial seals for ingress protection. PCB versions have epoxy-sealed terminals.

Blind Mating

Series 793 connectors have precision machined shells and guide pins for use in blind mate rack-and-panel applications.



EMI Shielding

Ground Springs

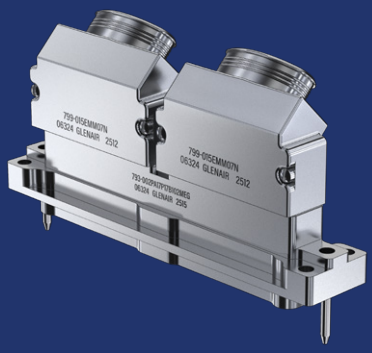
Optional ground springs provide low, stable shell-to-shell resistance. Available on 793 receptacles.

90° PCB Shroud

Right angle PCB connectors have a metal shroud over contact tails for EMI shielding.

EMI Backshell

Crimp connectors have grooves for attaching EMI backshells. Terminate cable shield to backshell with **Band-Master ATS®** band strap.

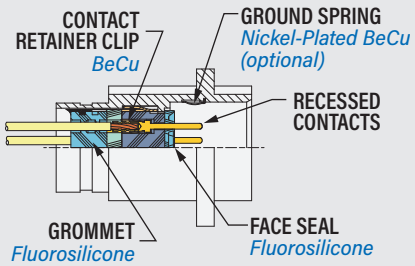


Hardware Options

Hardware options include guide pins, jackscrews, or screwlocks.

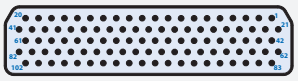
SCOOP-PROOF INTERFACE

Series 793 pin contacts are recessed to protect them from damage.



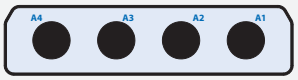
INSERT ARRANGEMENTS

Identification numbers are mating face of plug (socket) connector



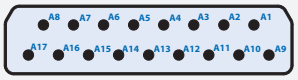
102

102 #23 Contacts



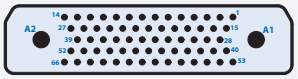
4W4

4 #8 Contacts



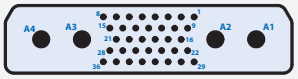
17W17

17 #16 Contacts



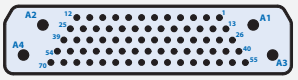
68W2

66 #23, 2 #12 Contacts



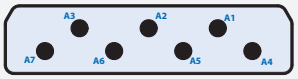
40W4

36 #23, 4 #12 Contacts



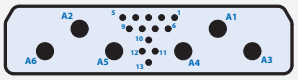
74W4

70 #23, 4 #16 Contacts



7W7

7 #12 Contacts



19W6

13 #23, 6 #12 Contacts

S T U V W X Y Z

OPTIMIZED
FOR USE WITH
SpeedLine™
High-Speed Protocol Cables

SERIES 794 Versa Link™

Advanced-performance mil-aero rectangular with VersaLink™ contact technology for high-speed wire-to-board applications

Series 794 brings high-speed performance to the Glenair Micro-Crimp family. Purpose-designed for VersaLink contacts, 794 connectors offer 1–36 high-speed VersaLink data ports in a single housing or in hybrid layouts with size 22HD contacts.

HIGH-SPEED PROTOCOL CAPABILITY:

- 10GBase-T
- 40GBase-T
- 100GBASE-CR4
- HDMI 2.0 / 2.1
- DisplayPort 1.4 / 2.0
- DVI Single / Dual
- eSATA / SATA 3.0
- SpaceWire
- USB 3.2 Gen 1x1, Gen 3x1, Gen 2x2, Gen 3x2

- **Designed for avionics and other high-datarate aerospace applications**
- **Supported protocols include 10Gb Ethernet, USB 3.0, HDMI, and DisplayPort and SATA**
- **Dual-lobe, scoop-proof shells prevent mating damage**
- **Available with optional polarizing keys**
- **1-36 VersaLink Pairs, plus #22HD contact combo layouts**
- **Rugged environmental design with robust EMC performance**
- **Ideal for blind-mate applications**

VERSALINK

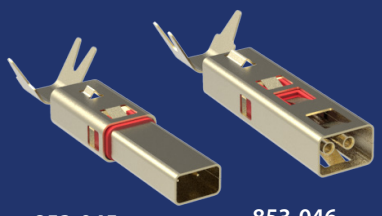
Series 794 Micro-Crimp High-Speed Twinax

With "zero crosstalk" VersaLink™ Twinax contact modules

Available gold-plated panel spring improves electrical bonding for panel-mount connectors

The Series 794 is intended for harsh high-vibration avionics and aerospace applications. The series supports VersaLink High-Speed twinax contact modules for 10Gb Ethernet, USB 3.0, HDMI and other protocols. Machined aluminum alloy shells feature dual lobes for polarization. Pin contacts are recessed to prevent scooping damage. Rear-release crimp contacts conform to M39029 EMI grounding fingers in the receptacle minimize EMI. Fluorosilicone face seals and wire grommets protect from moisture and contamination. Panel mount versions are available with an O-ring or a metal spring for improved panel bonding. Board-mount versions include straight terminals.

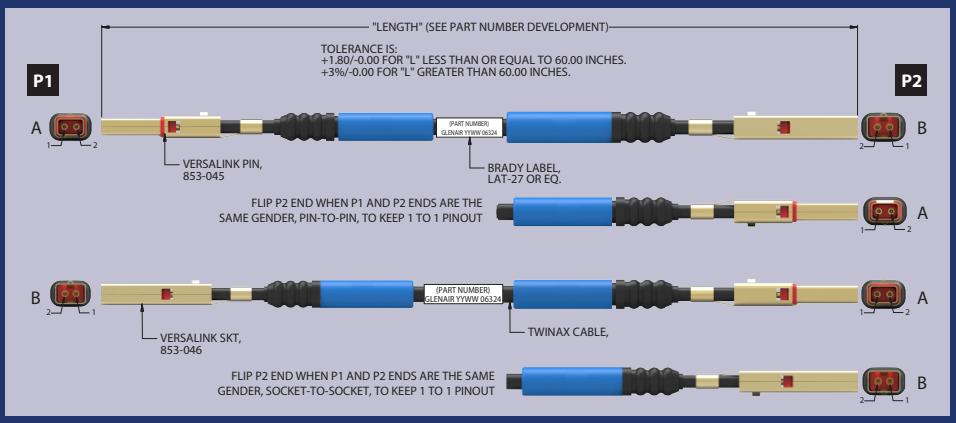
VERSALINK CONTACTS



853-045 Pin Contact

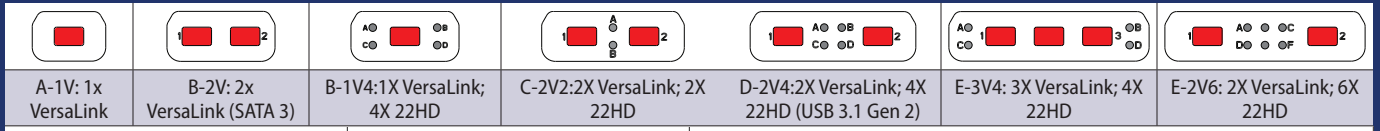
853-046 Socket Contact

8574-0001 VERSALINK PREWIRED CABLE ASSEMBLIES

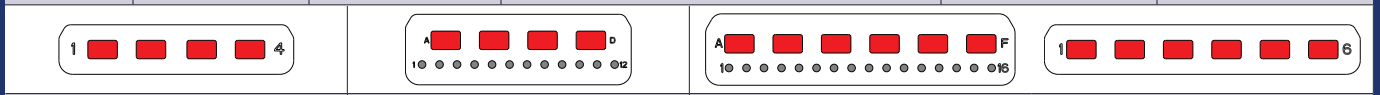


SERIES 794 VERSALINK CONTACT ARRANGEMENTS

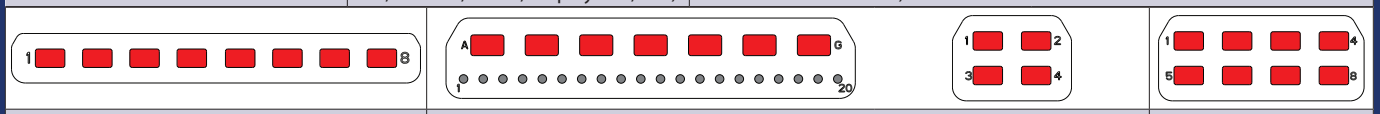
VersaLink Module
22HD Contact



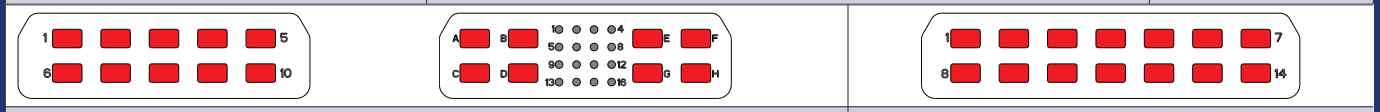
A-1V: 1x VersaLink | B-2V: 2x VersaLink (SATA 3) | B-1V4:1X VersaLink; 4X 22HD | C-2V2:2X VersaLink; 2X 22HD | D-2V4:2X VersaLink; 4X 22HD (USB 3.1 Gen 2) | E-3V4: 3X VersaLink; 4X 22HD | E-2V6: 2X VersaLink; 6X 22HD



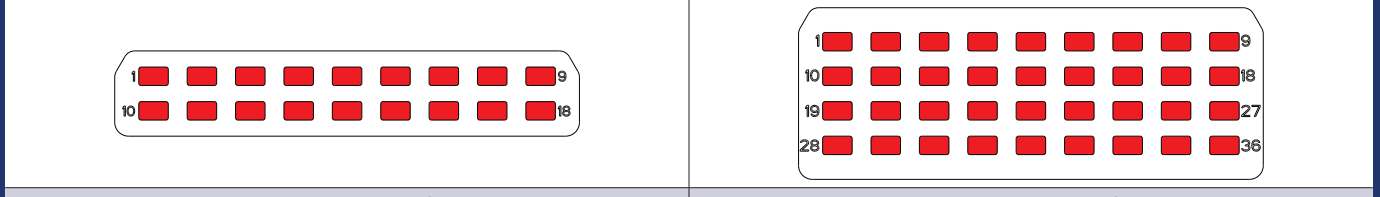
F-4V: 4X VersaLink (40G Ethernet) | G-4V12:4X VersaLink; 12X 22HD (USB 3.1, USB 3.2, HDMI, DisplayPort, DVI) | H-6V16: 6X VersaLink; 16X 22HD (DVI Dual Link) | J-6V:6X VersaLink



K-8V: 8X VersaLink | L-7V20: 7X VersaLink | P-4V: 4X VersaLink (40G Ethernet) | Q-8V8: 8X VersaLink



R-10V:10X VersaLink | R-8V16: 8X VersaLink; 16X 22HD | S-14V: 14X VersaLink



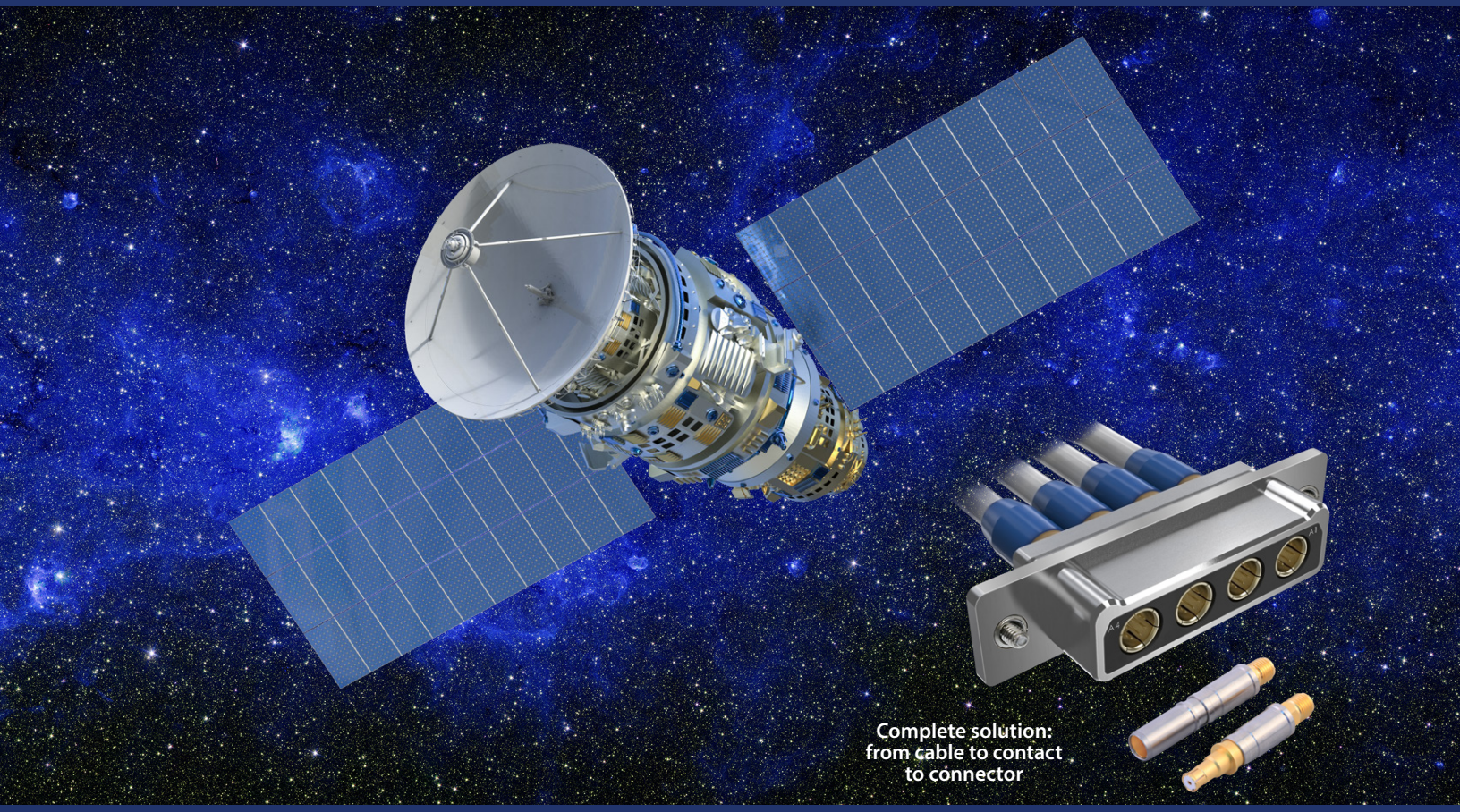
T-18V: 16X VersaLink | U-36V: 36X VersaLink

S T U V W X Y Z

OPTIMIZED
FOR USE WITH
BLUMARK RF
COAX CABLES

SERIES 795 RF

Precision-machined, scoop-proof aerospace-grade coax connector for RF, microwave, and mmwave applications



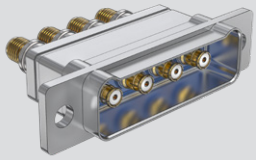
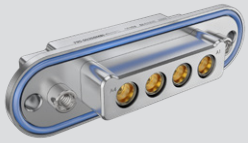
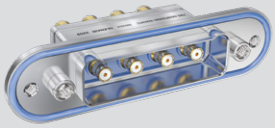
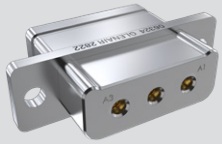
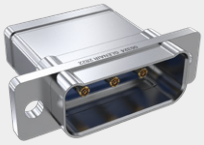
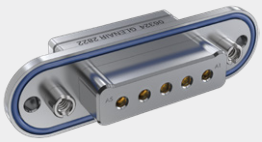
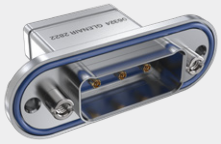
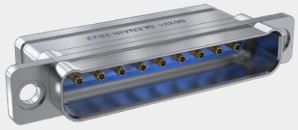
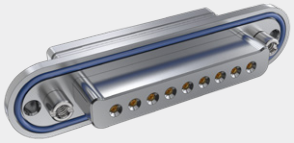
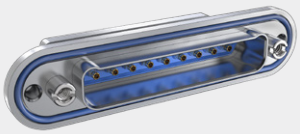
Series 795 RF connectors are supplied in single- and dual-row configurations with up to nine size #8, seventeen size #12, and seventeen size #16 cavities optimized for use with Glenair Series 852 high-frequency RF contacts. The scoop-proof dual-lobed shell protects the interconnect from mis-mating and mechanical damage. Robust environmental sealing ensures life-of-system reliability. Crimp-removable contacts snap easily into the connector housing and accept high-performance, low-loss BluMark RF cable.

- **High-frequency, multi-pin RF solutions from 18 GHz to 65 GHz**
- **Twenty-six layouts for size #8, #12, or #16 RF contacts (sold separately)**
- **Unibody connector design with common ground plane**
- **Environmentally-sealed**
- **Scoop-proof interface**
- **EMI spring available on receptacle connectors**
- **Snap-in, rear-release contact design**
- **Optimized for 50 Ohm BluMark RF coax cables**

Series 795 Micro-Crimp Multipin RF

Multi-port micro miniature rectangular with drop-in support for RF and microwave contacts

Series 795 RF Connector Selection Guide

Cable Plugs, Socket Contacts	Cable Receptacles, Pin Contacts	Panel Mount Plugs, Socket Contacts	Panel Mount Receptacles, Pin Contacts
			
795-001S (#8 BMB Contacts)	**795-002P** (#8 BMB Contacts)	**795-003S** (#8 BMB Contacts)	**795-004P** (#8 BMB Contacts)
			
795-005S (#12 SMPM Contacts)	**795-006P** (#12 SMPM Contacts)	**795-007S** (#12 SMPM Contacts)	**795-008P** (#12 SMPM Contacts)
			
795-009S (#16 SMPS Contacts)	**795-010P** (#16 SMPS Contacts)	**795-011S** (#16 SMPS Contacts)	**795-012P** (#16 SMPS Contacts)

GLENAIR SIGNATURE HIGH-FREQUENCY RF CONTACTS AND BLUMARK RF CABLE

50 Ohm | 18 GHz BMB

852-071 852-070

50 Ohm | 40 GHz SMPM

852-099 852-100

50 Ohm | 65 GHz SMPS

852-133 852-159

BLUMARK COAX CABLES RF

Series 962 BluMark RF 50 Ohm Coax Cables are available in eight size categories: 047, 086, 130, 141, 160, 200, 235, and 300. These low attenuation cables are suitable for aerospace applications and test equipment. Jacket options include FEP and radiation-resistant space-grade ETFE. Triple-shielded high performance cables have expanded PTFE dielectric core for low loss up to 40 GHz.

- **Low attenuation**
- **FEP and ETFE jackets**
- **Low phase change cables**
- **Eight size categories**
- **Compatible with standard RF/microwave connectors**

S T U V W X Y Z

OPTIMIZED
FOR USE WITH
MIL-STAR
HIGH-PERFORMANCE HOOKUP WIRE AND CABLE

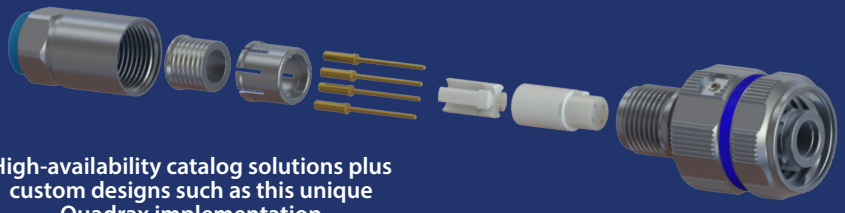
SERIES 806 MIL-AERO

Series 806 Mil-Aero: Advanced performance, reduced size and weight micro miniature

Two mating styles available: Triple-start stub ACME and bayonet-lock

Innovative design meets key performance benchmarks for harsh vibration, shock, and environmental settings—as well as high-altitude, unpressurized aircraft zones with aggressive voltage ratings and altitude immersion standards.

SIZE AND WEIGHT SAVING SOLUTIONS: CATALOG OR CUSTOM



High-availability catalog solutions plus custom designs such as this unique Quadrax implementation

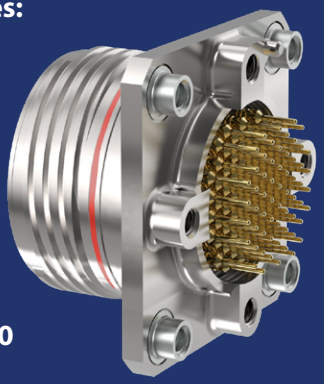
- Next-generation small form factor aerospace-grade circular connector
- Designed for harsh application environments including SWAMP-zone sensors, flight navigation electronics, and flight deck avionics
- Integrated anti-decoupling technology
- High density 20HD, 22HD, RF, power, and high-speed contact arrangements
- Hermetic and filter versions
- +200°C temperature rating

MICRO MINIATURE

Series 806 Mil-Aero Circular Connectors

For harsh mil-aero applications · Meets or exceeds MIL-DTL-38999

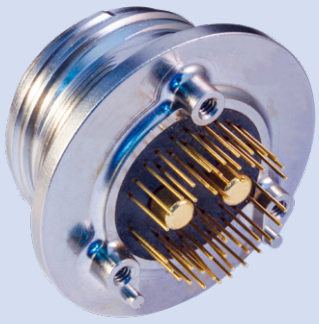
SERIES 806 MIL-AERO: FEATURES / SPECIFICATIONS



- **Supported wire sizes:**
  #20HD contacts
  20–24 AWG
  #22HD contacts
  22–28AWG
- **Dielectric withstanding voltage**
  #20HD layouts: 1800 VAC
  #22HD layouts: 1300 VAC
- **Reduced pitch triple-start modified anti-decoupling stub ACME mating threads**
- **"Triple ripple" wire sealing grommet (75,000 ft. rated)**
- **Integral Nano-Band shield termination platform**
- **EMI shielding effectiveness per D38999M para. 4.5.28 (65 dB min. leakage attenuation @ 10GHz)**
- **10,000 amp indirect lightning strike**
- **MIL-S-901 Grade A high impact shock**

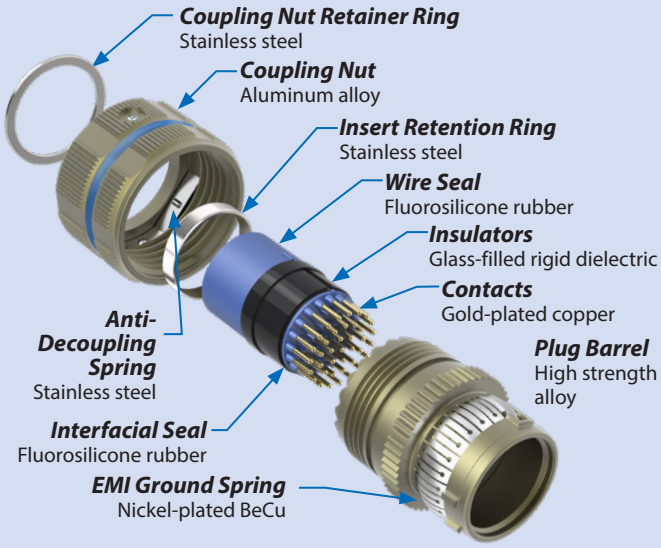
AVAILABLE LIGHTWEIGHT ALUMINUM "CODE RED" HERMETICS

CODE RED is a lightweight encapsulant sealing and assembly process with 50% package-weight savings compared to glass-to-metal seal Kovar/stainless steel solutions. Non-outgassing CODE RED (IAW NASA/ESA) provides durable hermetic sealing with $1X10^{-7}$ leak rate performance. Gold-plated copper contacts deliver outstanding low-resistance current carrying capacity.

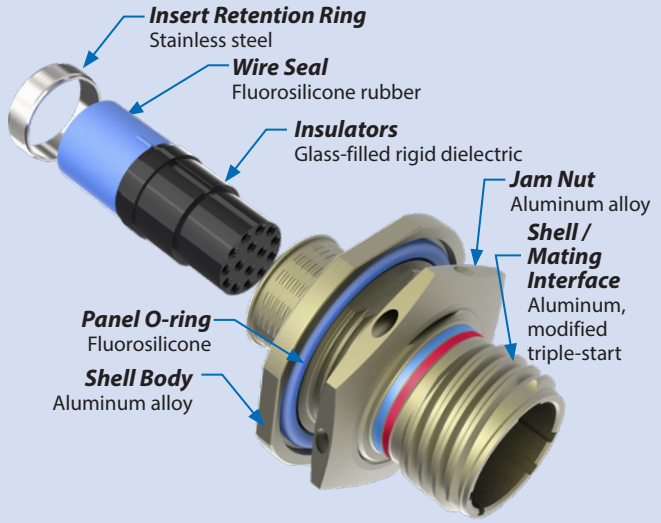


CODE RED

SERIES 806 MIL-AERO PLUG

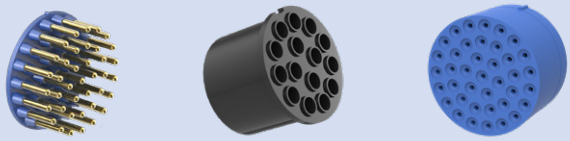


SERIES 806 MIL-AERO RECEPTACLE



SMALLER AND LIGHTER WITH EQUAL D38999 PERFORMANCE?

High-Density Layouts	*"Top Hat" Insulator*	*Triple Ripple Wire Seal*
Twice as many contacts in a smaller package	High voltage rating, foolproof alignment	Reliable 75,000 ft. altitude immersion

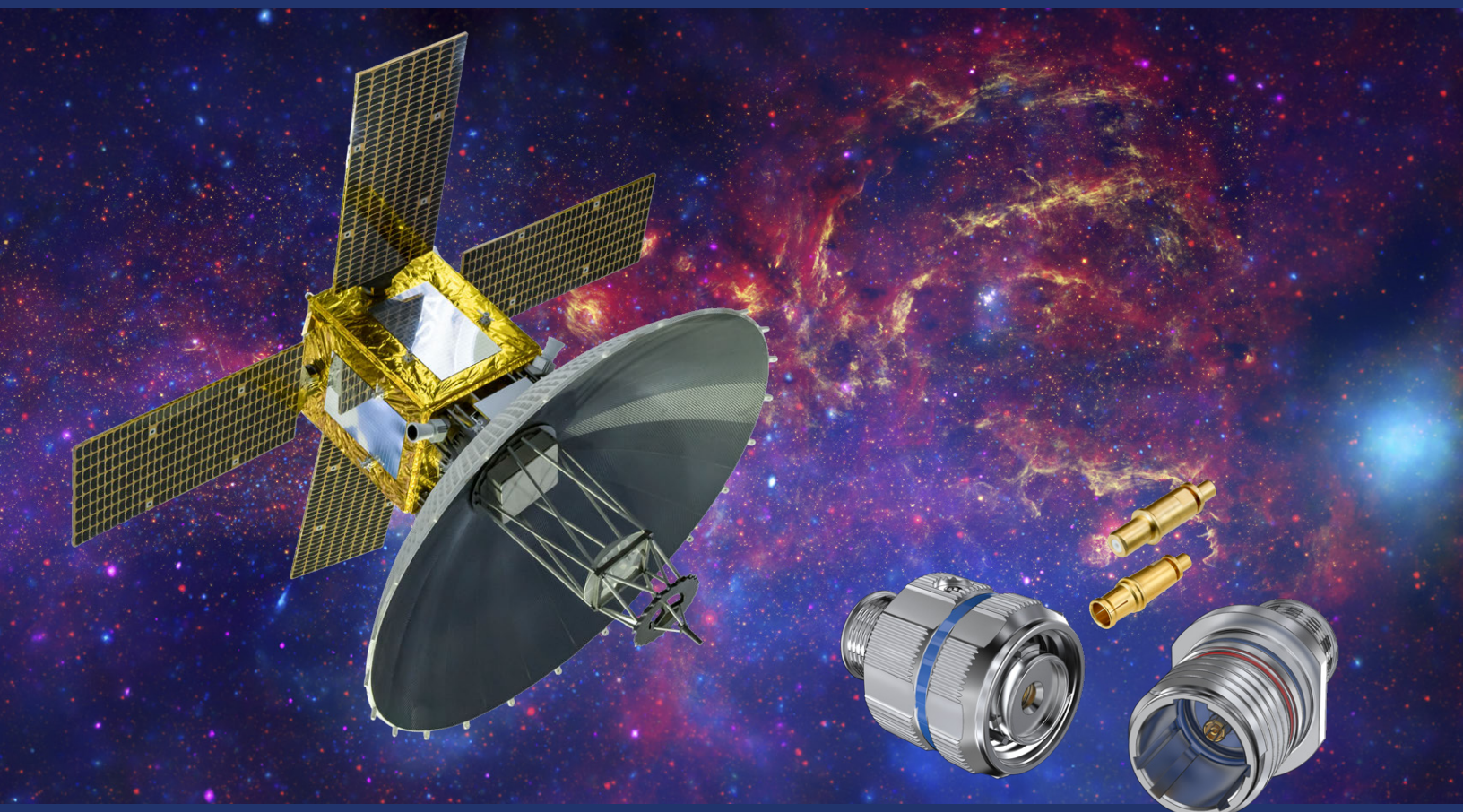


S T U V W X Y Z

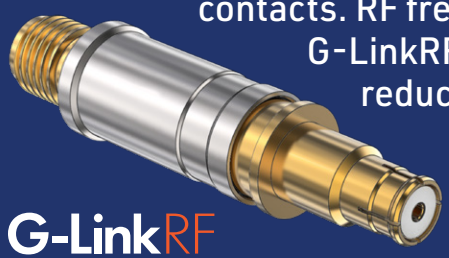
OPTIMIZED
FOR USE WITH
BLUMARK RF
COAX CABLES

SERIES 806 RF MIL-AERO

Series 806 RF Mil-Aero Multiport Micro Circular for RF, Microwave, and mmWave Applications



Series 806 RF connectors are micro miniature circulars with true MIL-DTL-38999 Series III-level performance including high altitude immersion, DWV, and shock and vibe resistance. Precision-machined aluminum or stainless steel shells, fluorosilicone grommets, and auxiliary shielding delivers space-grade environmental, mechanical, and electrical performance. Eighteen contact layouts, eleven shell sizes, with support for #8 BMB, #12 SMPM, or #16 SMPS contacts. RF frequency from DC–65 GHz. G-LinkRF contacts save time and reduce labor.



G-LinkRF

Save time and improve reliability. Series 806 RF connectors are optimized for use with 26.5 GHz G-Link RF contacts with integral female SMA adapter for attaching SMA plug directly to the contact.

- **Eighteen layouts for size #8, #12, or #16 RF contacts (sold separately)**
- **Optimized for SpeedLine and BluMark RF cables**
- **Available SplayMaster cable organizer backshells**
- **Environmentally-sealed**
- **Scoop-proof mating interface**
- **EMI spring on plugs for low shell-to-shell resistance**
- **Snap-in, rear-release contacts**
- **Hermetic versions and extended backshells available**

MICRO MINIATURE

Series 806 RF Mil-Aero Circular Connectors

Supports size #8, size #12, and size #16 drop-in RF contacts

SERIES 806 RF CONNECTOR SELECTION GUIDE

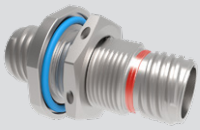
806-072
Cable Plug

806-073
Wall-Mount Receptacle

806-079
In-Line Receptacle

806-080
Jam Nut Receptacle

806-082-01
Hermetic Bulkhead Feedthru, Panel Mount (Pin-Pin)



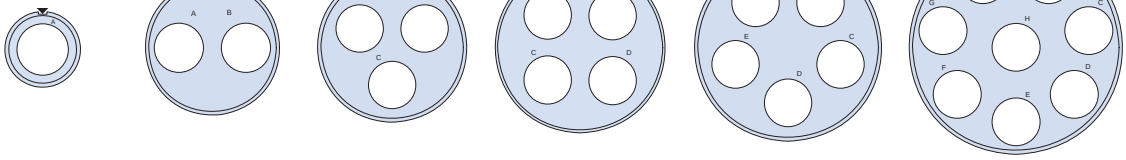
806-082-07
Hermetic Bulkhead Feedthru, Jam Nut Mount (Pin-Pin)

806-082-13
Hermetic Bulkhead Feedthru, Weld Mount (Pin-Pin)

SERIES 806 SIZE 8 RF CONTACT ARRANGEMENTS

Mating face of pin connector. Socket numbering is reversed.

Symbol ▼ indicates master key location.

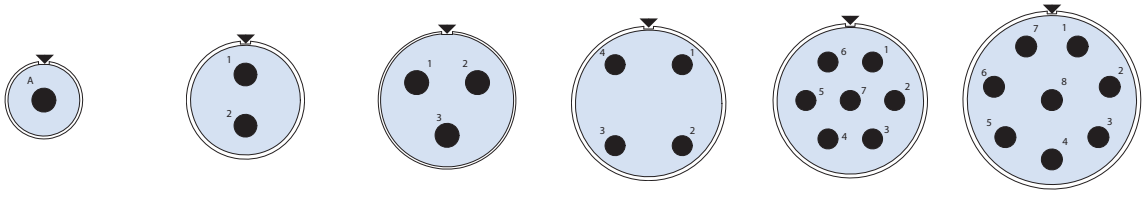


Arrangement No.	10R1	16R2	18R3	20R4	22R5	24R8

SERIES 806 SIZE 12 RF CONTACT ARRANGEMENTS

Mating face of pin connector. Socket numbering is reversed.

Symbol ▼ indicates master key location.

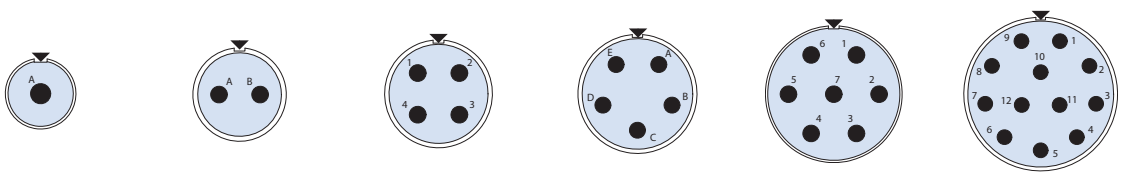


Arrangement No.	9R1	12R2	14R3	16R4	16R7	18R8

SERIES 806 SIZE 16 RF CONTACT ARRANGEMENTS

Mating face of pin connector. Socket numbering is reversed.

Symbol indicates master key location.



Arrangement No.	8R1	10R2	11R4	12R5	14R7	16R12

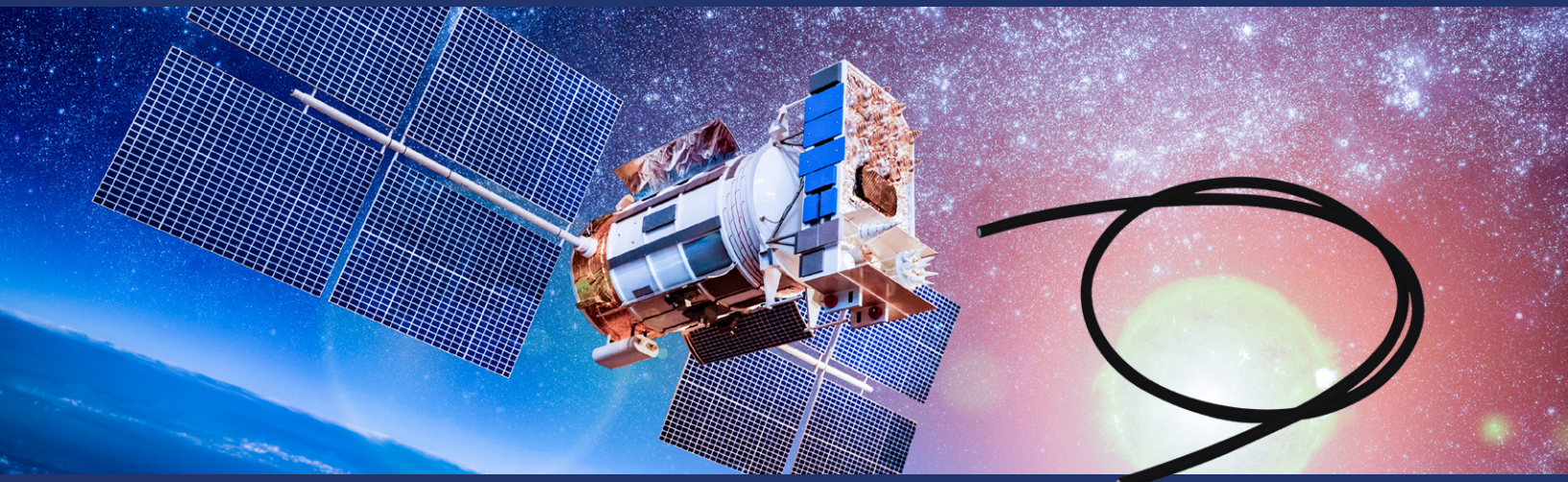
S T U V W X Y Z

A GLENAIR SIGNATURE

High-Rel Cable Assembly

CRITICAL COMPONENT

SGEMP-Resistant Wire
Radiation-protected · Duralectric "low-Z" filler · ArmorLite shielding · no air gaps

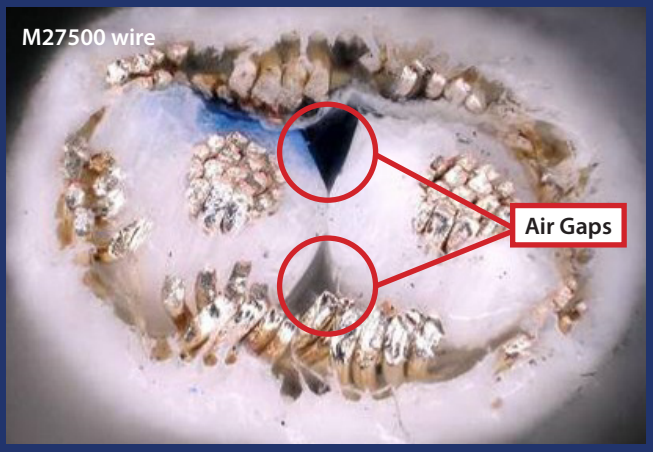


Radiation shielding is essential for satellites, missile defense, and avionics. A System-Generated Electromagnetic Pulse (SGEMP) from a nuclear burst produces low-energy X-rays that release electrons, generating harmful currents in electronics. These can cause data loss, signal disruption, or permanent damage.

Glenair's SGEMP-Resistant Wire uses Duralectric EMP low-Z filler to eliminate air gaps and block neutron intrusion, while a lightweight ArmorLite high-Z braid shields against secondary gamma rays and electrons. Available in singles, pairs, triples, quads, controlled-impedance pairs, and Cat6A, this wire is vital for protecting mission-critical systems from radiation effects.

- **Duralectric EMP low-Z filling material for neutron shielding**
- **ArmorLite high-Z braid shields secondary gamma radiation and electrons**
- **No air gaps between wires or shield**
- **Minimizes charge induced in wires during high-radiation SGEMP events**
- **30X lower induced charge than standard M27500 wire per MBS test**

CLOSE-UP CROSS-SECTION COMPARISON OF 22 AWG TWISTED, SHIELDED PAIRS



M27500 wire (left) cross-section shows numerous air gaps. Glenair SGEMP resistant wire (right), with Duralectric EMP low-Z filling material has no air gaps. ArmorLite braided shielding with minimum 95% coverage protects against secondary gamma radiation and electrons.

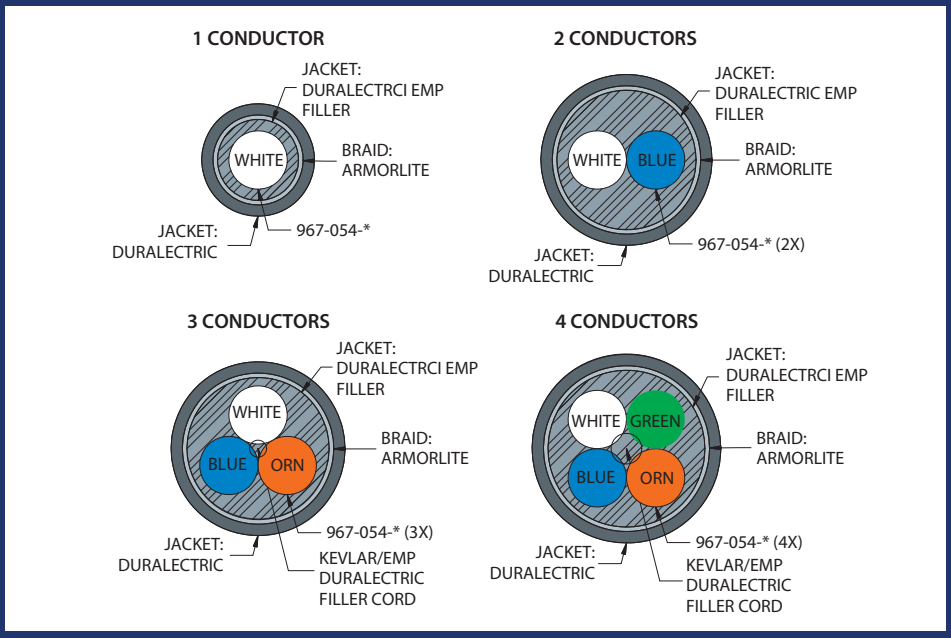
RADIATION-PROTECTED

SGEMP-Resistant Wire

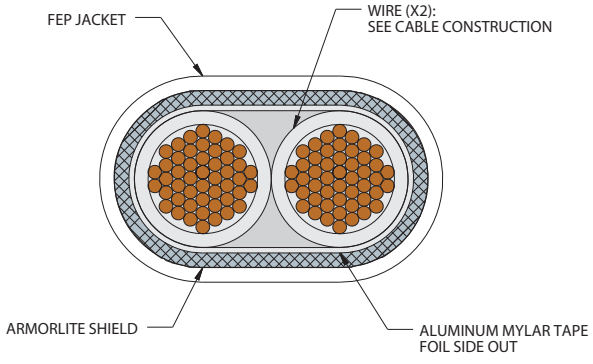
For System-Generated Electromagnetic Pulse protection applications

SGEMP-RESISTANT WIRE: ONE, TWO, THREE, OR FOUR CONDUCTORS, DURALECTRIC JACKET • 968-060

DURALECTRIC™ D JACKET COLOR OPTIONS		
Weatherproof, halogen free, flame resistant, functional to 260°C		
0	Black	FED-STD-595C #17038
1	Brown	[TBD]
2	Red	FED-STD-595C #11120
3	Orange	FED-STD-595C #12300
4	Yellow	FED-STD-595C #13591
5	Kelly Green	FED-STD-595C #14193
6	Blue	FED-STD-595C #15125
7	Violet	FED-STD-595C #17142
8	Gray	FED-STD-595C #26270
9	White	FED-STD-595C #17875

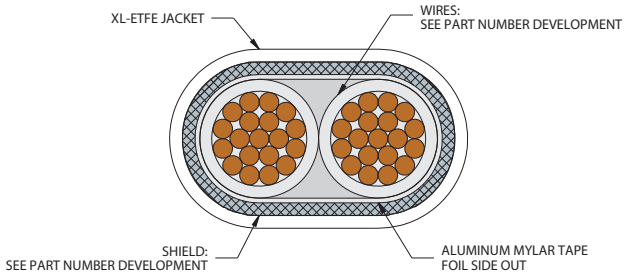


SGEMP-RESISTANT TWISTED-PAIR WIRE, LIGHTWEIGHT FEP JACKET, ARMORLITE BRAID • 968-014



- Wire (X2): Twisted pair (30 - 20 AWG): GS22759-33-* or M22759/33-*;
  Twisted pair (18 - 12 AWG): GS22759-44-* or M22759/44-*
- Tape: Aluminum mylar
- Braid: ArmorLite per 103-051-XXX; 90% minimum shield coverage
- Jacket: FEP, .008" thick (may be supplied without jacket)
- Wire is solid white with colored stripes.
  Stripe color coding per ANSI/NEMA WC 27500 preferred identification method.

SGEMP-RESISTANT WIRE, ONE THROUGH FOUR CONDUCTORS, GS22759 WIRE AND BRAIDED SHIELD MATERIAL OPTIONS • 968-057



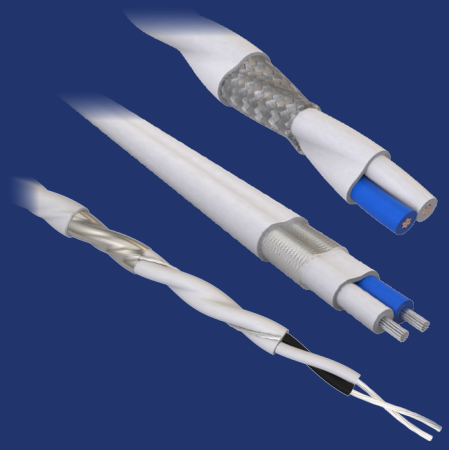
- Wires: GS22759 or M22759, gauges -32 thru -46
- Tape: Aluminum mylar, foil side out
- Shield: Tin-, Silver-, or Nickel-coated copper, 90% minimum shield coverage
- Jacket: White crosslinked modified ETFE (Ethylene-tetrafluoroethylene). Wall thickness per ANSI/NEMA WC 27500.
- Wire is solid white with colored stripes.
  Stripe color coding per ANSI/NEMA WC 27500 preferred identification method.

SpeedLine™

High-Speed Protocol Cables

Glenair supplies a wide range of high-speed shielded twisted pair cabling for use with El Ochito®, VersaLink™, SpeedMaster™, and other of our shielded high-speed connector and contact technologies. High flexibility and high-density reduced-weight cable designs are a specialty. Glenair offers turnkey Cat 8 Ethernet, SuperSpeed USB 3.0, HDMI, SATA, and other solutions for today's most mission-critical application platforms.

Glenair SpeedLine cables are optimized for signal integrity, weight savings, flexibility, and durability. In addition, these aerospace and space-grade cables have been optimized for ease of termination and across-the-board compatibility with our broad range of high-speed contact modules and connectors.



- **Cat 8 Ethernet, SuperSpeed USB 3.0, HDMI, SATA, and other solutions for mission-critical applications**
- **Individual foil shielding around each data pair for reduced crosstalk and attenuation**
- **Up to 200°C high-temperature-rated cable**
- **Skydrol resistant, RoHS compliant versions**
- **Ethernet versions meet ANSI/TIA 568-C.2 Category 6A requirement up to 262 feet/80 meters**
- **SuperSpeed USB pairs with industry-leading low attenuation**
- **LSZH jacketing options including Duralectric and polyurethane**

DisplayPort · SERIAL ATA · HDMI™ HIGH DEFINITION MULTIMEDIA INTERFACE · SUPERSPEED CERTIFIED USB

SpeedLine™ high-speed protocol cables: shielded differential data-pair cables for high-datarate Ethernet, USB, SATA, PCIe, DisplayPort, and HDMI protocols

SpeedLine cables are selected for protocol compliance in accordance with industry standards for Ethernet, USB, and SATA/eSATA and other popular high-speed specifications. Without exception, the cables have been designed and fabricated to optimize flexibility, weight reduction, ruggedness, and insulator quality. Each cable is offered with specific guidance as to shielding properties, impedance performance, attenuation, temperature rating, bend radius, weight, and maximum practical transmission distance. Signal integrity and S-parameter test results are available for Glenair cable, contact, and connector combinations.

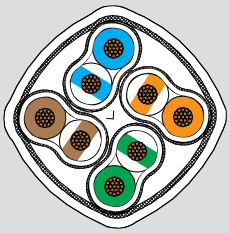
HIGH-SPEED

SpeedLine High-Speed Protocol Cable

High-performance · high-availability

963-066 -24, -26, and -28

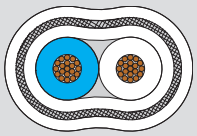
100 OHM TWISTED PAIR SHIELDED CABLE FOR EL OCHITO® WHITE / SPEEDMASTER CONNECTORS



- Performance up to Cat 8 Ethernet
- -65°C to +200°C
- FEP jacket, FEP insulation
- Dual shields: aluminized polyimide tape and metallic braid

963-073 -24, -26, 28, and -30

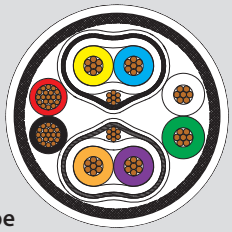
100 OHM TWISTED PAIR SHIELDED CABLE FOR GENERAL IMPEDANCE-CONTROLLED APPLICATIONS



- Performance up to 2 GHz
- -65°C to +200°C
- FEP jacket, FEP insulation
- Silver-plated alloy conductors

963-077-26

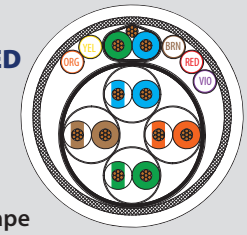
90 OHM TWISTED PAIR SHIELDED CABLE FOR USE WITH EL OCHITO® BLUE CONNECTORS



- -65°C to +200°C
- FEP jacket, FEP insulation
- Dual shields: aluminized polyimide tape and silver-plated copper braid

963-127

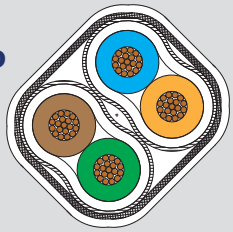
100 OHM TWISTED PAIR SHIELDED CABLE FOR EL OCHITO® RED CONNECTORS



- -65°C to +200°C
- PFA jacket, PFA insulation
- Dual shields: aluminized polyimide tape and silver-plated copper braid

963-072-24

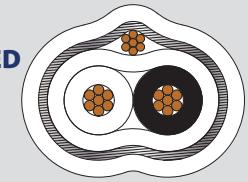
100 OHM TWISTED PAIR SHIELDED CABLE FOR USE WITH EL OCHITO® RED CONNECTORS



- -65°C to +200°C
- FEP jacket, FEP insulation
- Dual shields: aluminized polyimide tape and silver-plated copper braid

963-057-28

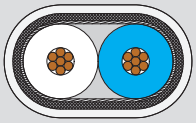
100 OHM TWISTED PAIR SHIELDED CABLE FOR USE WITH MICRO-D HIGH-SPEED CONNECTORS



- Performance up to 10 GHz
- -65°C to +200°C
- FEP jacket, FEP insulation
- Shield: aluminized polyimide tape

963-069-26

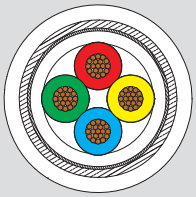
100 OHM #26 AWG FLAT PAIR SHIELDED CABLE FOR USE WITH VERSALINK™ CONNECTORS



- Performance up to 18 GHz
- -65°C to +200°C
- FEP jacket, FEP insulation
- Dual shields: aluminized polyimide tape and #44 AWG silver-plated copper braid

963-079-24-01

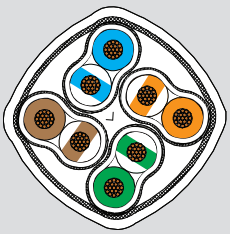
100 OHM #24 AWG DIFFERENTIAL QUADRAX CABLE FOR USE WITH GLENAIR 854-001AND -002 QUADRAX CONTACTS



- Performance up to 1 GHz
- -65°C to +200°C
- FEP jacket, FEP insulation
- Silver-plated copper braid shield

963-080 -24 and -26

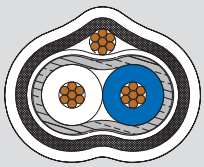
100 OHM TWISTED PAIR SHIELDED CABLE FOR EL OCHITO® RED CONNECTORS



- Performance up to 8 GHz
- -65°C to +200°C
- FEP jacket, FEP insulation
- Dual shields: aluminized polyimide tape and silver-plated copper braid

963-065-30

100 OHM #30 AWG TWISTED PAIR SHIELDED CABLE FOR USE WITH GMMD CONNECTORS



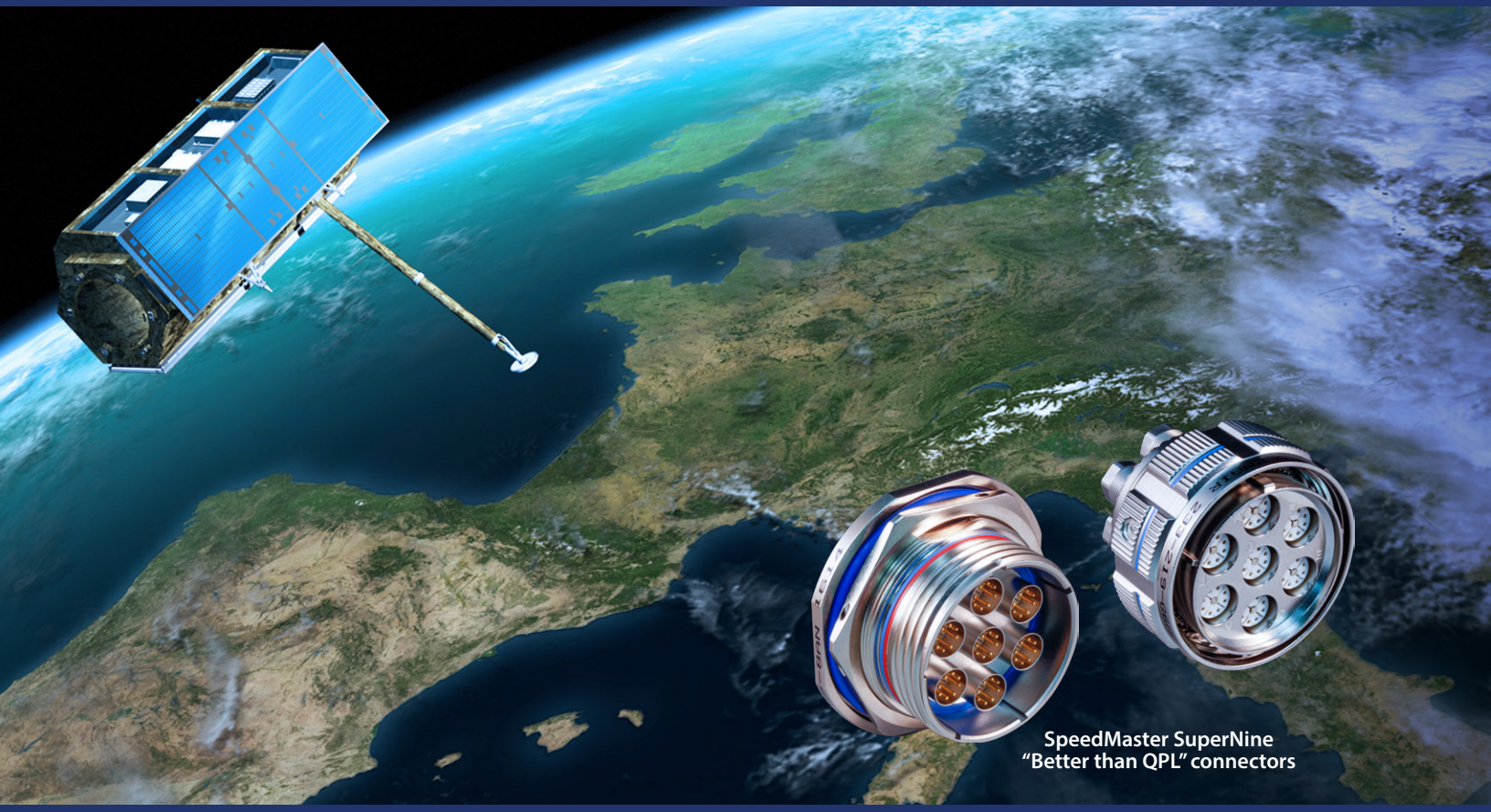
- Performance up to 18 GHz
- -65°C to +200°C
- FEP jacket, FEP insulation
- Dual shields: polyimide and silver-plated copper braid

S T U V W X Y Z

OPTIMIZED
FOR USE WITH
SpeedLine™
High-Speed Protocol Cables

SPEEDMASTER™

High-Speed **10G Ethernet** connection system for SuperNine, Mighty Mouse, and Series 79 Connectors



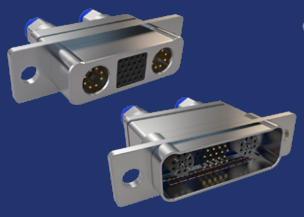
SpeedMaster SuperNine
"Better than QPL" connectors

SpeedMaster™ is a dedicated size #22D crimp-contact module and insert package for SuperNine®, Mighty Mouse, and Series 79 connectors. Optimized for high-speed Cat 6A Ethernet, the SpeedMaster™ 10G system offers industry-leading NEXT, return loss, and insertion loss performance

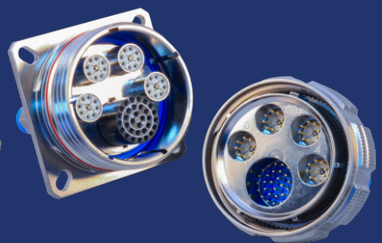
- **Utilizes aerospace industry standard #22D contacts, tools, and widely available Ethernet flight cable**
- **Significant weight reduction compared to Quadrax solutions (reduces cable requirement by half)**

SpeedMaster Mighty Mouse locking push/pull connectors

Pressure-rated overmolded subsea cable assemblies



Series 7925 advanced-performance rectangular



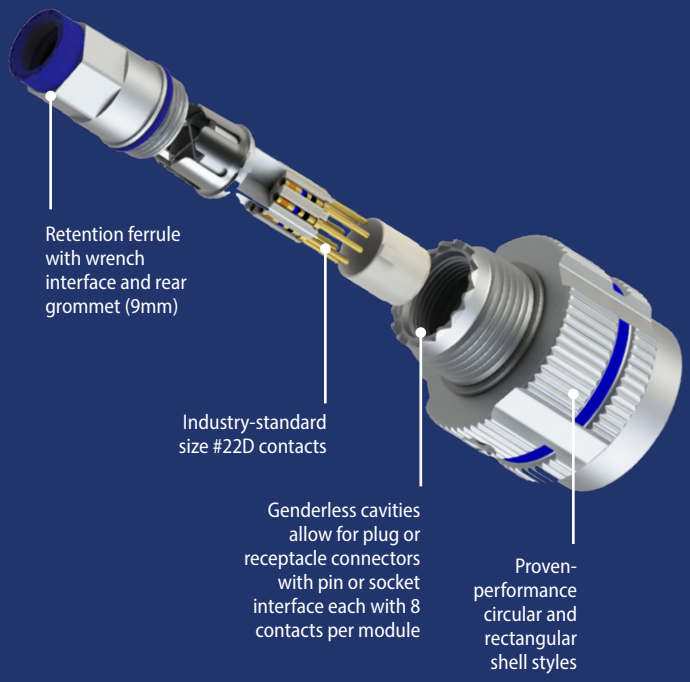
SuperNine SpeedMaster with hybrid contact arrangement

HIGH-SPEED

SpeedMaster™ 10GbE Connection System

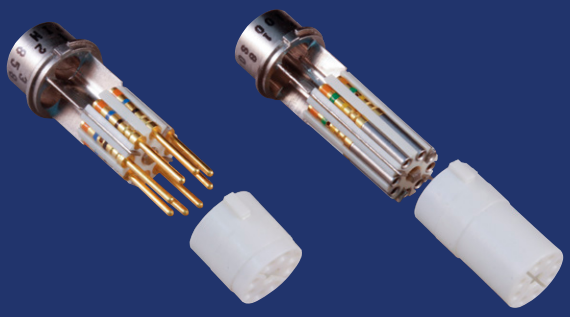
For Glenair SuperNine, Mighty Mouse, and Series 79 connectors

SPEEDMASTER 10G NEXT-GENERATION HIGH-SPEED CONNECTION SYSTEM



The SpeedMaster Difference

Each SpeedMaster module consists of 4 pairs of pins or sockets incorporating industry-standard size 22D contacts. Each module is individually shielded within the shell and retained in place with a threaded ferrule. Module cavities are genderless, allowing pin or socket interface for plugs or receptacles. SpeedMaster contacts are available as a drop-in high-speed 10G Ethernet solution in 3 connector packages: Small form-factor Mighty Mouse Series 824 locking push/pull, Series 7925 advanced-performance rectangular, and "Better than QPL" SuperNine D38999 Series III type connectors. SpeedMaster modules are easily removable and repairable to reduce network downtime.



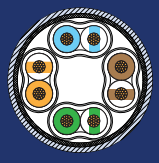
SpeedMaster 10G modular inserts are available for Series 23 SuperNine – 38999, Series 80 Mighty Mouse – Locking Push / Pull and Series 7925 high-performance scoop-proof rectangular connectors.

The SpeedMaster 10G is optimized for high-speed Ethernet performance and incorporates standard M39029 #22D contacts isolated for superior NEXT, return loss, and insertion loss performance.

SpeedMaster Glass-Sealed Hermetic: Fully qualified to MIL-DTL-38999 Series III environmental and mechanical specifications. 10-7 Helium leak rate. Outstanding high-speed performance. Bulkhead feed-thru shown.

SpeedLine™ Compatible High-Speed Cable						
Cable P/N	Cable Cat.	Cable Const.	Wire Gage	Cable Dia.	Cable Size	Assembly Instruction
963-066-24	Cat 6A	S/FTP	24	.260 (6.60)	3	AI85082
963-066-26	Cat 6A	S/FTP	26	.238 (6.05)	6	
963-075-24	Cat 6A	SF/UTP	24	.265 (6.73)	3	

SpeedLine™ High-Speed Protocol Cables



Manufactured and tested in-house for optimal high-speed performance

S T U V W X Y Z

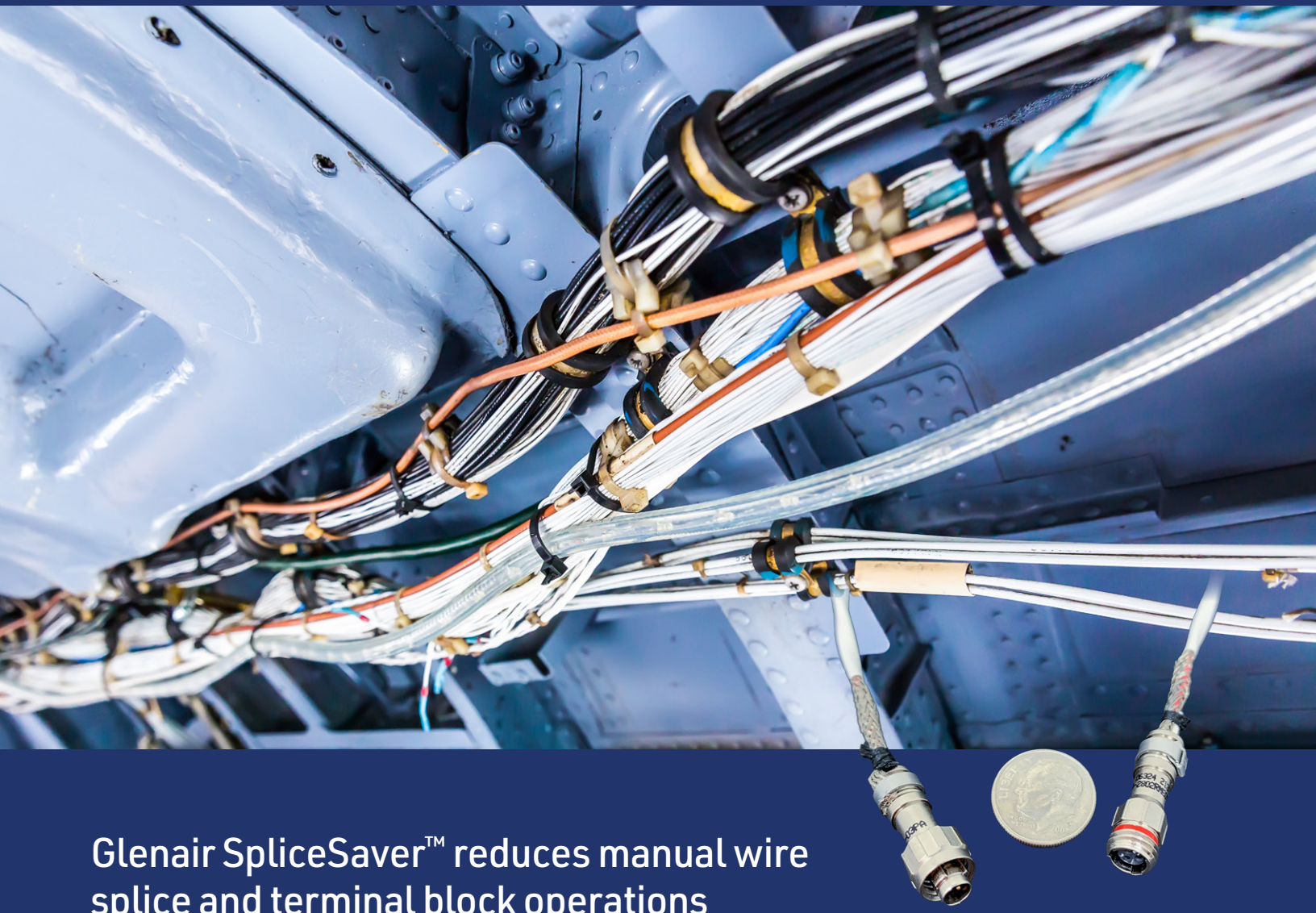
A GLENAIR SIGNATURE

High-Rel Cable Assembly

CRITICAL COMPONENT

SPLICE SAVER™

SpliceSaver crimp wire termination solution saves time and labor over manual DO150 splicing



Glenair SpliceSaver™ reduces manual wire splice and terminal block operations

SpliceSaver™ is a lightweight, single-piece interconnect solution for aircraft wiring systems that use heat shrink splicing for signal, sensor, and data lines. It enables pre-termination of wires with crimp-and-poke contacts at remote harness assembly sites. During installation, wires are routed and quickly inserted into the SpliceSaver connector at interconnection points.

All versions include integrated banding platforms for EMI shield termination using qualified banding methods. The standard one-piece design features three termination points—both ends and center—for efficient EMI management. A bussed version is also available.

Compared to traditional terminal blocks and splice methods, SpliceSaver provides faster, cleaner, and more reliable wiring termination.

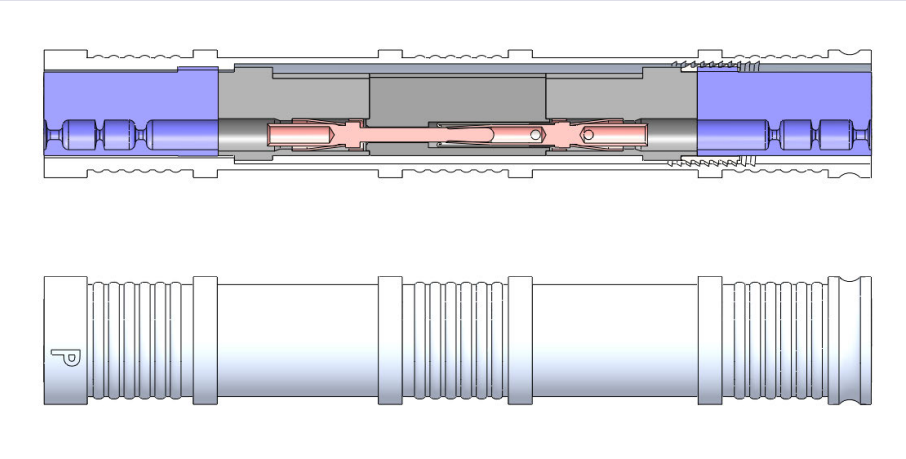
- **Lightweight construction**
- **Two configurations: single-piece or threaded**
- **Crimp contact technology: rear release / rear removal**
- **Three to nineteen circuits per unit**
- **Environmentally sealed**
- **Full-mate indicator**
- **Replaces labor-intensive terminal blocks and splices**

LIGHTWEIGHT

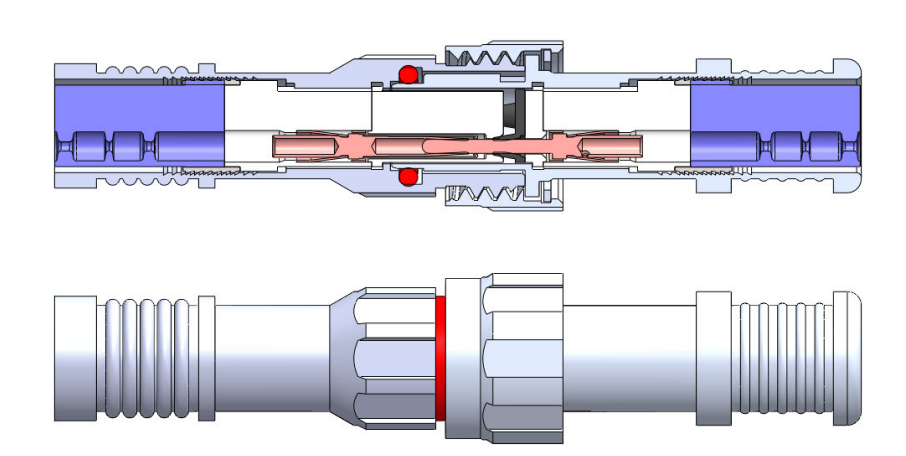
SpliceSaver™ Crimp-Contact Wire-Splice Solution

Time saving · Labor saving · Weight saving

SPLICESAVER AVAILABLE CONFIGURATIONS—FEATURES AND SPECIFICATIONS



Single-Piece



Threaded

Finished assembly

- **Keys and keyways**
- **Metallic coupling nut**
- **Altitude Immersion to 75,000 feet**
- **Banding area for shield termination on all versions.**
- **The size 6 splice offers insert arrangements of 3x20, 4x22 or 7x22**

SpliceSaver™ Specifications

Altitude immersion:
75,000 ft.

DWV rating at altitude:
>800 V

Dielectric Withstanding Voltage Ratings:
22AWG = 5 amps/contact
20AWG = 7.5 amps/contact

Material and finish options (for compatibility with available EMI/RFI braid materials)**:**
Cadmium-plated aluminum
Nickel-plated aluminum
Nickel-plated brass

SpliceSaver™ Weight Analysis

Receptacle connector:
1.6 grams including contacts and seals

Plug connector:
1.66 grams including contacts and seals

Total connector mass:
5.66 grams (all contact locations installed)

Accessories: Add the variable mass of two or three nano bands trimmed to length of grooves in the split sleeve

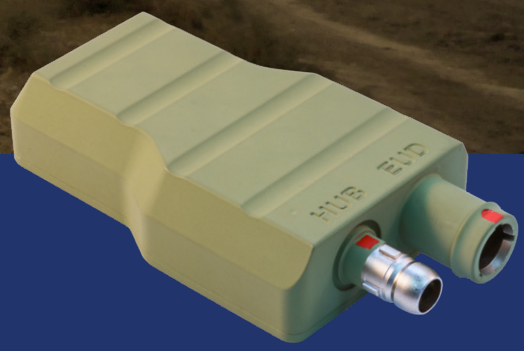
Process and Labor Saving PALS APPROVED Interconnects

OPTIMIZED
FOR USE WITH
MIL•STAR™
HIGH-PERFORMANCE HOOKUP WIRE AND CABLE

STAR-PAN+™

Multiport USB hubs, cables, and peripheral device manager for soldier-worn power / data network applications

STAR-PAN+™



STAR-PAN+™ Mission Manager
Plug-and-play EUD / USB peripheral data exchange device for "onboard" edge computing

Relentless, ongoing innovation in baseline warfighter power and connectivity solutions

The Glenair STAR-PAN+™ data hub and power distribution system has evolved as the baseline warfighter power and data hub of choice–particularly in Joint Terminal Attack Controller (JTAC) applications. STAR-PAN+™ represents over a decade of soldier power and data hub innovation–improving situational awareness, surveillance, intelligence, and reconnaissance while optimizing power monitoring, conditioning, and distribution performance. Importantly, all STAR-PAN+™ technologies are designed for optimal size, weight, power, and ruggedized mil-spec performance with battle-tested environmental and EMC sealing and shielding.

- **Versatile 2, 4, and 6-port high-speed hub configurations**
- **Compatible with USB 1.1, USB 2.0, and SMBus**
- **Embedded power charging/conditioning electronics in all designs**
- **Smart power monitoring for longer mission life**
- **Robust circuit protection**
- **Sealed IAW the MIL-STD-810 harsh-environment standard**
- **New MISSION MANAGER for on-the-fly device integration to soldier C4ISR networks**

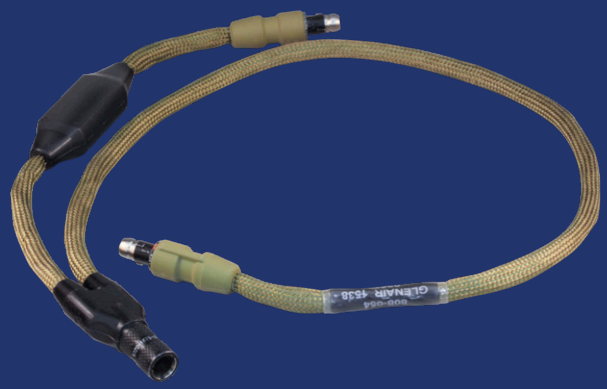
Glenair's Tactical Interconnect Solutions team is backed by seven decades of proven, made-in-America interconnect industry performance in service of US and NATO armed forces.

BATTLE-TESTED

STAR-PAN+™ Scalable Soldier Hub Systems

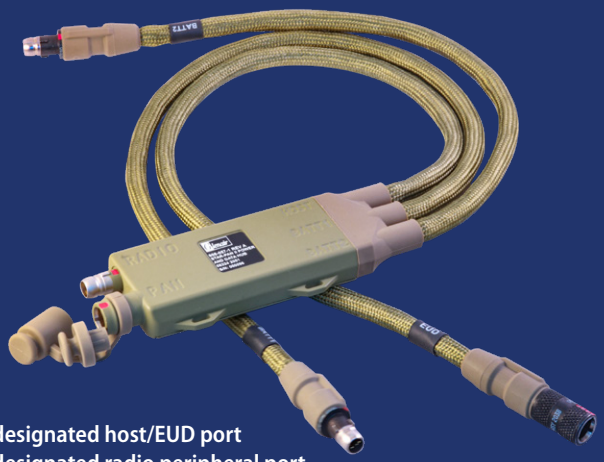
For soldier network connectivity and battery power management

STAR-PAN+™ LIGHT FOR STANDARD SOLDIERS



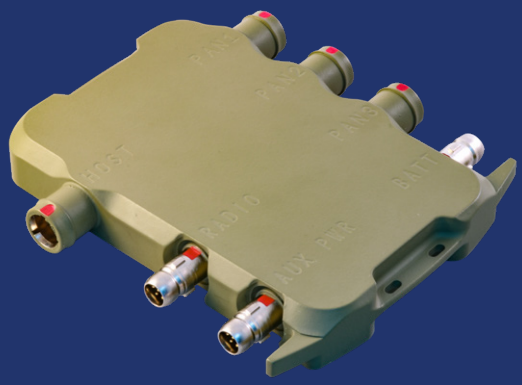
- 1 designated host / EUD port
- 1 battery cable / port
- 1 designated peripheral cable / port (expandable for radio use with adapter cable)

STAR-PAN+™ II FOR ADVANCED SOLDIERS



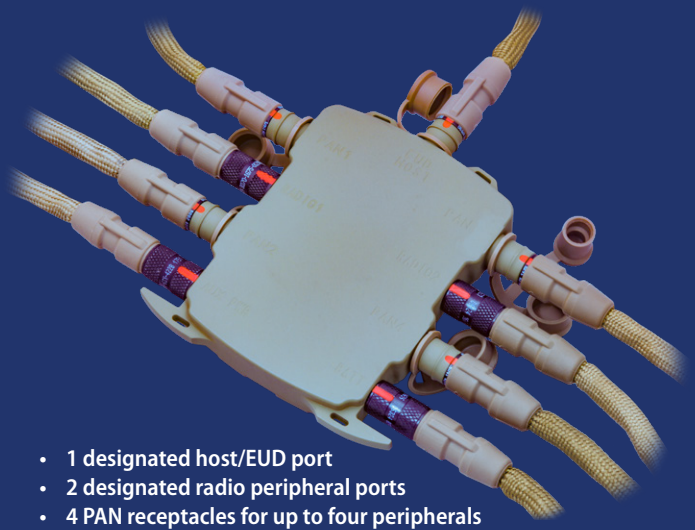
- 1 designated host/EUD port
- 1 designated radio peripheral port
- 1 expandable PAN port for up to two USB peripherals

STAR-PAN+™ IV FOR TACTICAL MISSION SPECIALISTS



- 1 designated host/EUD port
- 1 designated radio peripheral port
- 3 PAN receptacles for up to four peripherals

STAR-PAN+™ VI FOR JTAC / MISSION COMMANDERS



- 1 designated host/EUD port
- 2 designated radio peripheral ports
- 4 PAN receptacles for up to four peripherals

OPEN-SYSTEM NETWORK SUPPORT FOR THE COMPLETE RANGE OF C4ISR DEVICES

Radios | Batteries | Targeting | Video | GPS | Host / EUD

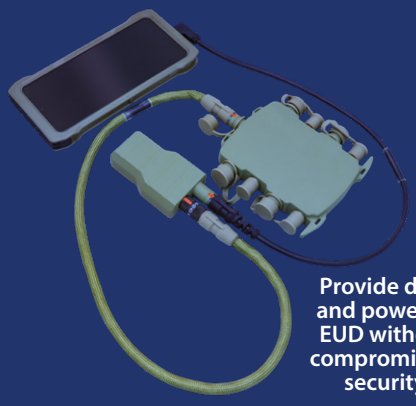
S T U V W X Y Z

OPTIMIZED
FOR USE WITH
MIL-STAR™
HIGH-PERFORMANCE HOOKUP WIRE AND CABLE

STAR-PAN™ Mission Manager: smart, fast, untethered edge computing

STAR-PAN Mission Manager puts real-time intelligence and autonomous edge computing in the warfighter's hands

JTAC peripheral device configuration for both general use and mission-specific profiles is a complicated and time-consuming process, repeated for each and every mission. The Glenair STAR-PAN™ MISSION MANAGER with MX quick-configuration software reduces this problem by providing a plug-and-play bridge between the soldier's End User Device (EUD) and the C4ISR peripherals he depends on for mission success. The STAR-PAN™ MISSION MANAGER is a Linux OS ARM-based embedded computing device that acts as a full-time host, brokering data between soldier USB peripherals and the EUD.



Provide data and power to EUD without compromising security

- **End User Device independent—no device rooting or custom ROM images needed**
- **Supports multiple simultaneous Ethernet devices**
- **Dedicated EUD port for connection to downstream EUD**
- **WiFi version with RF antenna port**
- **Mission Manager MX software Android, iOS, Windows, and Linux compatible**

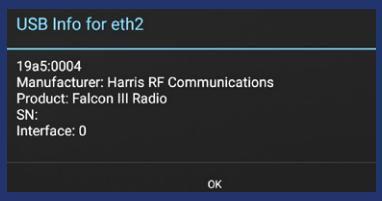
PLUG-AND-PLAY

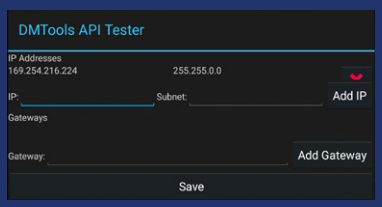
STAR-PAN™ Mission Manager with MX Software

EUD / USB peripheral data exchange device

STAR-PAN™ MISSION MANAGER MX SOFTWARE CAPABILITIES

MISSION MANAGER with Stauder Technologies' MX quick-configuration software eliminates the need for costly EUD OS development, and/or complicated device provisioning, by providing an intelligent interconnection bridge between the soldier's EUD and his C4ISR peripherals. The secure datalink software runs directly on the EUD providing a graphical user interface for configuration and management of USB/Ethernet datalink connections and radios. STAR-PAN™ MISSION MANAGER with MX software eliminates the need to retest or recertify complex systems after EUD update or replacement.





MISSION MANAGER MX software runs directly on the soldier's EUD to provide plug-and-play configuration and management of USB/Ethernet datalink connections and radios.

AVAILABLE CONFIGURATIONS

- **Mission Manager standard**
- **Mission Manager wireless**
- **Mission Manager with WiFi / RF**

Qualified for use with all STAR-PAN power / data hubs: Light, I, II, IV, and VI

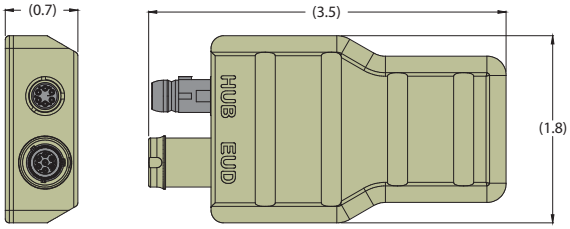
A Quick-Start User's Guide is available and supplied with each device

TS2-002
Mission Manager

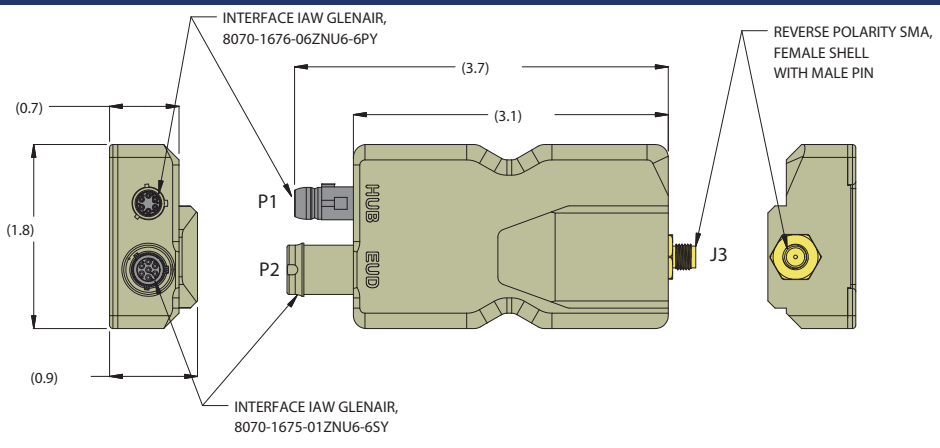
TS2-010
Mission Manager
with WiFi external antenna

PERFORMANCE SPECIFICATIONS	
Storage Temperature	-40°C to +80°C
Operating Temperature	-20°C to +55°C
Operation Altitude	9754m
Storage Altitude	15240m

TS2-002 MISSION MANAGER STANDARD / TS2-005 MISSION MANAGER WIRELESS



TS2-010 MISSION MANAGER WITH WIRELESS RF CONNECTOR



S T U V W X Y Z

OPTIMIZED
FOR USE WITH
MIL-STAR™
HIGH-PERFORMANCE HOOKUP WIRE AND CABLE

STAR-PAN™ NG

Next-generation USB-C warfighter power and data hub with Mission Manager for easy device integration

WARFIGHTER-TOUGH

STAR-PAN™ NG

Next-Generation STAR-PAN Multiport USB Hub, Cable, and Power Management Systems

STAR-PAN NG is the next-generation upgrade to the STAR-PAN+ series, developed in direct response to JTACs, SOF, mission commanders, and other military users. Key enhancements include:

- Integrated Mission Manager for plug-and-play device integration
- Higher power delivery with a new 8A-per-pin connector—same dimensions as the original 5A Series 807 NATO STANAG 4695 push-pull, with a retractable pin 7 for full backward compatibility.
- Universal Power Ports (UPP) replace separate battery, auxiliary, and radio inputs—now any port supports any input/output power format, including high-voltage input and managed 5V output for charging.
- Advanced USB-C host port enables native power negotiation, higher power delivery, and backward compatibility, while also supporting daisy-chaining of multiple EUDs for power.
- Faster data rates with USB 3.2 Gen 1 (5Gbps) support in the STAR-PAN X Base Station—featuring 10 ports and upgraded board-level interconnects for seamless high-speed operation.

STAR-PAN NG delivers more power, flexibility, and speed—future-proofing mission-critical connectivity in the field.

- **Versatile 1, 2, 3, and 4 PAN port-equipped hub configurations**
- **Universal Power Ports with embedded power charging**
- **Integrated MISSION MANAGER for plug-and-play device integration**
- **Circuit board level USB-C power integration and delivery**
- **Precision-machined hub bodies, IAW MIL-STD-810 harsh-environment, IP67 dust/water resistant**
- **Support for 5Gb/s data transmission (STAR-PAN X Base Station only)**
- **Standard NG solutions and custom configurations**

WARFIGHTER-TOUGH

STAR-PAN™ NG

Next-generation multiport USB hub, cable, and power management systems with 8 amp power, Mission Manager, and USB-C integration

STAR-PAN™ NG SOLDIER HUB SELECTION GUIDE

STAR-PAN NG 1/2

Our smallest hub with one EUD port, one PAN port and two universal power ports

STAR-PAN NG 2/2

The next step up with one EUD port, two PAN ports and two universal power ports

STAR-PAN NG 3/3

Next-generation design with one EUD port, three PAN ports and three universal power ports

STAR-PAN NG 4/4

Next-generation design with one EUD port, four PAN ports and four universal power ports

OPEN-SYSTEM NETWORK SUPPORT FOR THE COMPLETE RANGE OF C4ISR DEVICES

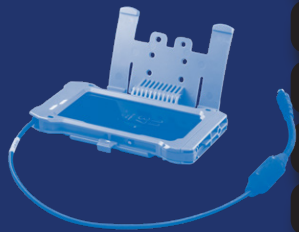
Radios

Batteries

Targeting

Video

GPS



Host / EUD

S T U V W X Y Z

OPTIMIZED
FOR USE WITH
MIL-STAR™
HIGH-PERFORMANCE HOOKUP WIRE AND CABLE

STAR-PAN™ X

Ten-port base station hub with universal device charging and data uplink capabilities

STAR-PAN™ X BASE STATION

Warfighter walk-on, walk-off connectivity and charging device for vehicle and other transport platforms

Integration of soldier C4ISR capabilities on an existing fleet of land, air, and maritime platforms is proving to be a challenge for many NATO members. STAR-PAN™ X 10-Port Base Station is a baseline multi-port data and power hub for platform-based soldier power and C4ISR integration. STAR-PAN X 10-port Base Station supports USB 3.2 Gen 1 high-speed data rates and 8 Amp power delivery. The unit allows soldiers to directly connect portable soldier power and data systems to the transportation platform's network for charging and data sharing—enabling soldiers to refresh critical battery power and access real-time BMS information during transport in a vehicle, helicopter, or vessel.

STAR-PAN X incorporates an embedded MISSION MANAGER with upgraded processing power enabling it to act as a tactical edge computing device running any Battlefield Management System (BMS). STAR-PAN X incorporates all STAR-PAN + standard features as well as select next-generation features including Universal Power Ports, an expanded capability Host / EUD port, and full support for USB 3.2 Gen 1 peripherals.

STAR-PAN + STANDARD FEATURES

- **Compliance to both US and NATO STANAG 4695 connector interfaces**
- **Smart battery power management, built-in SMBus to USB conversion**
- **BMA-agnostic hardware**
- **Hot-swappable power sourcing, radio-supplied backup power support**
- **Water immersion IAW MIL-STD-810, IP67-rated dust/water resistant**
- **Intuitive equipment hookup and operation**

WALK-ON WALK-OFF

STAR-PAN™ X Base Station

Portable base station unit for convenient vehicle-to-soldier data uplink and charging

SPECIFICATIONS

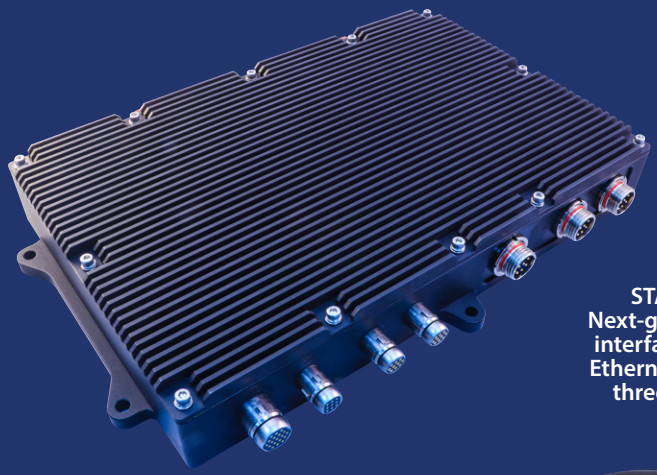
- PAN ports for up to ten soldier devices
- HDMI and Ethernet ports
- Integrated STAR-PAN MISSION MANAGER functionality
- Two USB 3.0 ports
- Three Universal Power Ports
- Glenair power port management
- Smart battery charging from auxiliary power
- Up to 5A battery power per port, 20A system total
- Up to 2A 5 Volt VBUS power per port, 10A across all ports
- Precision-machined construction, integrated connectors

STAR-PAN X BASE STATION APPLICATIONS

- Armored personnel carriers
- Land and air troop transports
- Landing craft and other naval vessels
- Command posts and shelters

OVERVIEW

STAR-PAN X 10-Port Base Station is a multi-port data and power hub for platform-based C4ISR integration. STAR-PAN X 10-port Base Station provides the same NATO standard interconnect interface as soldier-worn STAR-PAN systems, making it completely interoperable with the existing portfolio of cables and adapters and allowing easy soldier interconnection to the platform's data and power network. With STAR-PAN X, dismounted soldiers can connect to the vehicle power and data accessing on-board radios and sensors via a single cable connection and/or access data through the WiFi network when operating in the vicinity of the vehicle.



INTEROPERABLE
NATO STANAG 4695
Soldier Power Connectors

STAR-PAN X Base Station
Next-generation vehicle network interface design includes HDMI, Ethernet, and USB 3.0 ports, plus three Universal Power Ports.

USB 3.0 Cable Assembly
TS1-039

Cat5E Ethernet Cable Assembly
TS1-040

HDMI Type A Cable Assembly
TS1-041

AC Power Supply Adapter Assembly
TS8-497

USB 2.0 Dongle
TS3-001

S T U V W X Y Z

A GLENAIR SIGNATURE

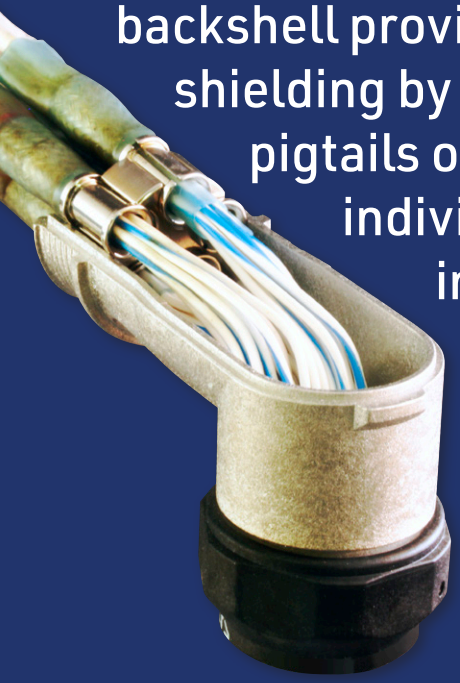
High-Rel Cable Assembly

CRITICAL COMPONENT

STARSHIELD™

Zero-length individual shield termination backshell for superior EMC management

The Glenair StarShield™ 470-013 backshell provides optimal 360° EMI/EMP shielding by eliminating the need for pigtails or drain wires. Designed for individual shield termination in cable bundles, it uses solder sleeve technology to deliver fast, reliable shield grounding—even across dissimilar wire types and gauges.



- **The unique StarShield™ configuration completely eliminates "standing antenna" problems common with pigtail shield termination systems**
- **The backshell utilizes familiar heat shrink termination (HST) sleeve technology for fast and reliable termination of shielding—even with dissimilar wire types and gauges**
- **Standard configurations include threaded compression nut and tapered split-ring that fits snugly into a conical backshell or a lightweight split banding version**

ZERO-LENGTH

StarShield™ Cable Braid Termination Backshell

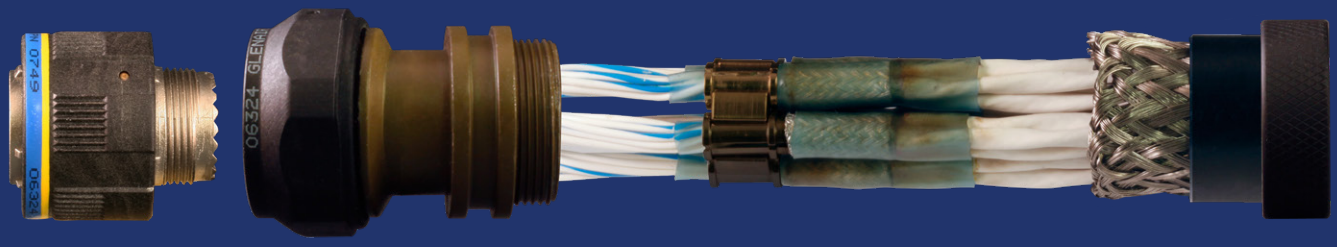
For individual wire-shield termination applications

WHAT IS STARSHIELD™ "ZERO LENGTH SHIELD TERMINATION?"

At the core of the design are termination ferrules that solder directly to each individual shield, forming a full 360° connection. These ferrules lock into a conductive "star" element, which in turn provides a second 360° termination to the backshell's ground plane. This creates a truly zero-length shield path—no exposed wires, no standing antenna effect, and no asymmetrical current paths.

Compared to legacy methods that used drain wires soldered or pulled through the shield to reach a cable clamp, StarShield eliminates the electromagnetic weaknesses caused by those extended lengths. Pigtails act as antennas and increase impedance, degrading EMC performance—especially at high frequencies. While newer techniques have reduced pigtail length, they still fall short in bandwidth-critical or noise-sensitive applications.

By bringing each shield directly into a solid, continuous 360° ground connection, the StarShield backshell ensures the highest possible EMC performance—making it one of the most effective and reliable shield termination solutions available today. Standard versions are available for banding or shrink-boot terminations.



Exploded view of a StarShield assembly termination. Note the use of heat shrink termination material and the Glenair signature StarShield ferrule assembly that results in superior EMC performance compared to conventional individual wire shield termination systems.

TEST DESCRIPTION	STARSHIELD™ PERFORMANCE REQUIREMENTS	PROCEDURE
Magnetic Permeability	Relative permeability less than 2.0 for aluminum and 5.0 for stainless steel.	EIA-364.54
DC resistance	Resistance was measured between connector/fixture, and ferrule or a point near the end of the cable shield. Cable shield resistance was subtracted when measuring to a point near the end of the cable shield. The DC resistance did not exceed 5 milliohms after conditioning.	EIA-364.6
Durability	Backshells subjected to 10 cycles of assembly and disassembly (not including HST device). Showed no evidence of damage detrimental to performance.	GPS470013
Coupling Thread Strength	After testing, backshell showed no evidence of damage detrimental to performance.	SAE AS85049 category 3A
Vibration	Backshell was torqued to a suitable test fixture representative of an actual connector. Cable bundle was clamped or otherwise secured at 10.0 +/-.5 inches from the test fixture. After testing, Backshell showed no evidence of loosening or damage detrimental to performance with no discontinuities >1g5.	EIA-364.28 Condition VI, letter J 8 hrs/axis, monitored
Shock	The pulse was approximate half sine wave of 300 G ± 15 percent magnitude with duration of 3 ± 1 milliseconds. The wire bundle was clamped or otherwise secured at 10.0 +/-.5 inches from the test fixture. After testing, Backshell showed no evidence of loosening or damage detrimental to performance with no discontinuities >1g5.	EIA-364.27
Bending Moment	After testing, backshell showed no evidence of loosening or damage detrimental to performance.	AS85049, category 3A (heavy duty)
Cable Pull-out	A minimum of one ferrule per backshell was tested and wired with 4 shielded twisted pairs. DC resistance was monitored during the test. DC resistance during the test did not exceed 7 milliohms.	EIA364.38, condition E (25lbs)
Shielding effectiveness	One representative medium size StarShield™ backshell was fitted to a brass or copper fixture, wired with copper tubes and tested in accordance with VG95373-41. Shielding effectiveness was greater than 98 dB at 30 MHz and 90 dB at 100 MHz.	VG95373-41

S T U V W X Y Z

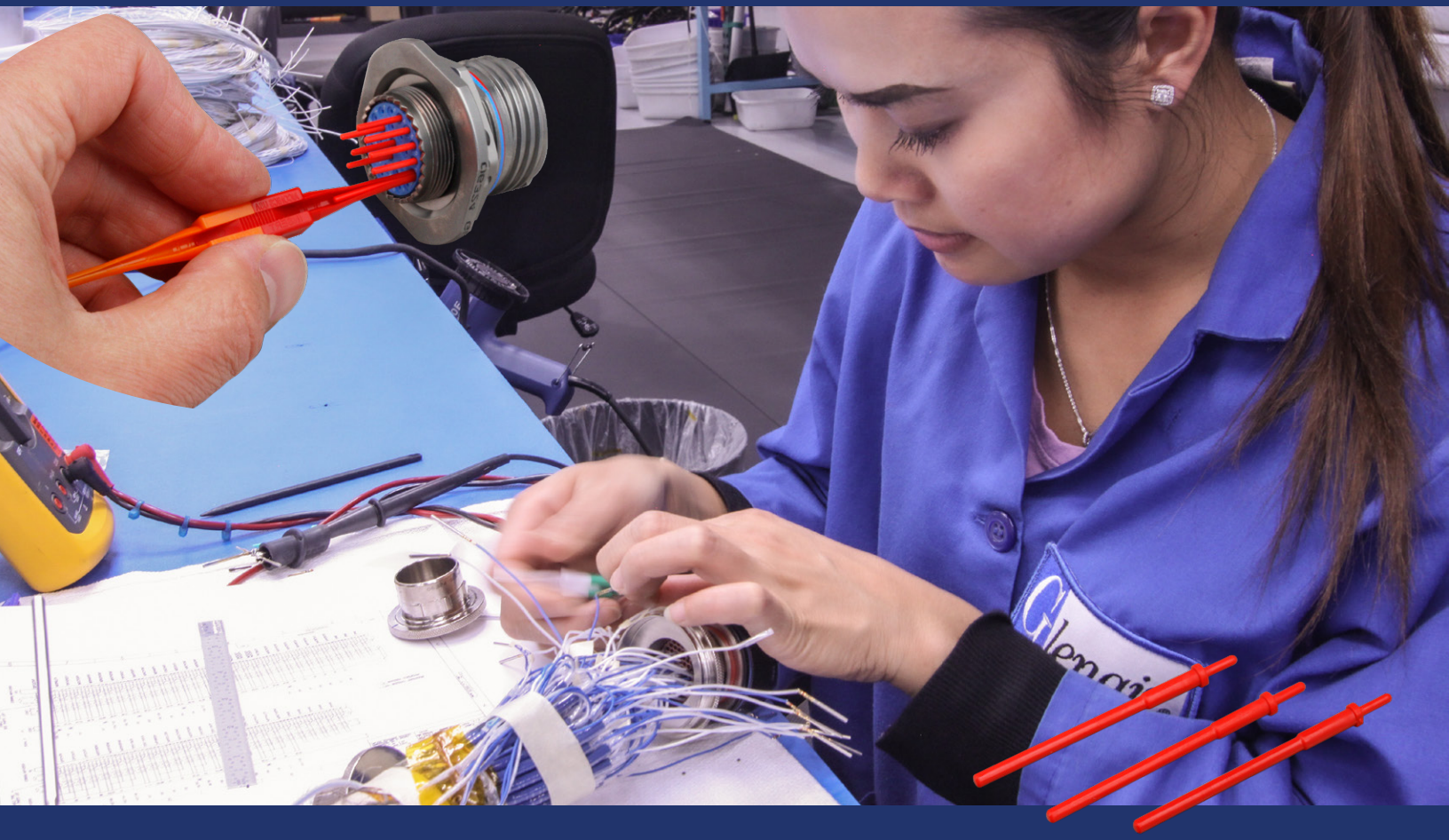
A GLENAIR SIGNATURE

High-Rel Cable Assembly

CRITICAL COMPONENT

Super DCSP

Innovative one-piece weight, cost, and labor-saving Dummy Contact Sealing Plugs



Glenair long-length Super-DCSP sealing plugs reduce the cost and complexity of sealing unused contact cavities

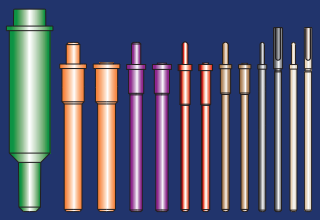
The use of color-coded M27488 type plastic sealing plugs in unused contact cavities is a requirement in all environmental interconnect applications (IAW NA01-1A-505-1, WP 007 00 or 020 00). Conventional sealing plugs, combined with the connector grommet seal, provide reliable dust and moisture ingress protection. But common contact sealing plugs still require that a properly-sized electrical contact be first inserted into the cavity, followed by the plastic plug. Glenair innovative Dummy Contact Sealing Plugs (Super-DCSP) eliminate the need to use expensive electrical contacts as part of the sealing regimen. Fast and easy-to-install, these longer form-factor Dummy Contact Sealing Plugs are a one-piece solution to contact cavity sealing that results in significant weight reduction, material cost, and assembly labor. Available in Size #22 to Size #8, for connector series D38999, EN4165, Series 800 Mighty Mouse, EN4644, and ARINC 600, Glenair Super-DCSP Dummy Contact Sealing Plugs reduce weight as much as 90% compared to conventional contact/sealing plug configurations.

- **Powerful tool in Electrical Wire Interconnect System weight reduction**
- **Eliminates use of expensive electrical contacts for sealing-only applications**
- **Leverages connector contact clip for secure retention of the sealing plug—no FOD**
- **Easy-to-install single piece design**
- **Visible quality control / confirmation of cavity fill from back of connector**
- **EWIS compliant test report GT 15-106 available**

FOD-FREE

Super-DCSP Dummy Contact Sealing Plugs

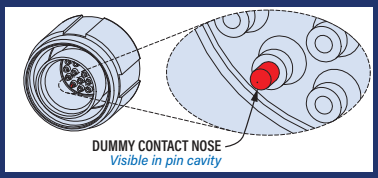
For reliable single-step sealing of unused contact cavities



Weight-saving, high temperature. Dummy contacts maintain environmental sealing in unused connector cavities. Compatible with MIL-DTL-38999 connectors along with Glenair Series 80 Mighty Mouse, Series 806, and Series 79 connectors. Made of chemical-resistant thermoplastic, these dummy contacts are available in sizes 8, 12, 16, 20, 20HD, 22, 22HD, and 23. Sealing plug tail protrudes from grommet to facilitate removal with standard extraction tools. Rated for +200 °C continuous operating temperature, these sealing plugs save weight compared to installing an unused electrical contact plus a grommet sealing plug.

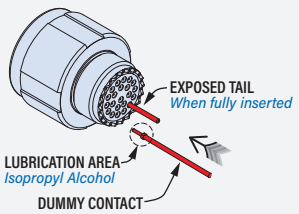
Size 8 dummy contacts require 680-180-02 sealing boot for environmental sealing.

Material: +200 °C thermoplastic

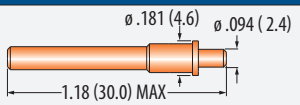
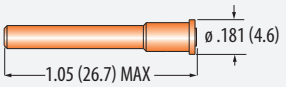
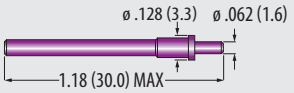
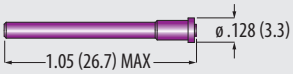
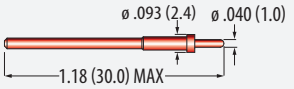
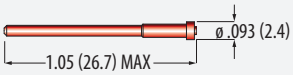
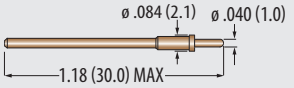
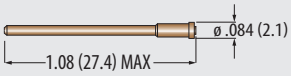
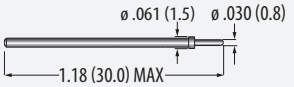
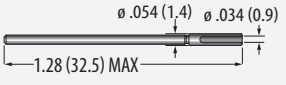
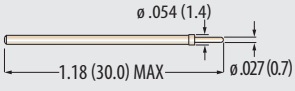
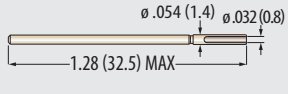
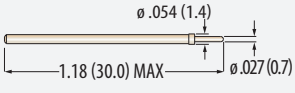
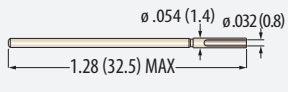


INSTALLATION TIPS

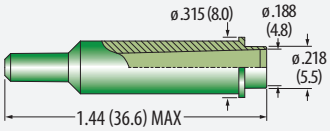
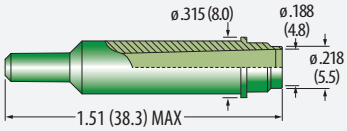
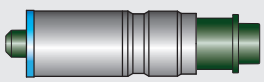
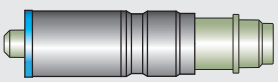
Insert dummy contact into unused contact cavity. Lubricate front nose of dummy contact with isopropyl alcohol. Install by hand. Use needle-nose pliers or contact insertion tool if space is limited. Push dummy contact into cavity until flange locks into contact retention clip. Pull on the tail to verify dummy contact is locked in place. Dummy contact is removable with standard contact removal tool.



DUMMY CONTACT SEALING PLUGS

Contact Size	Pin Part Number	Socket Part Number	Series
#12	 680-116-12	 680-116-12S	D38999 Mighty Mouse Series 806 Series 79
#16	 680-116-16	 680-116-16S	D38999 Mighty Mouse Series 806 Series 79
#20	 680-116-20	 680-116-20S	D38999 Mighty Mouse
#20HD	 680-116-20HD	 680-116-20HDS	Mighty Mouse Series 806
#22	 680-116-22	 680-116-22S	D38999 Mighty Mouse
#22HD	 680-116-22HD	 680-116-22HDS	Series 806
#23	 680-116-23	 680-116-23S	D38999 Mighty Mouse Series 79

SIZE 8 DUMMY CONTACT SEALING PLUGS

Contact Size	Part Number *for D38999, Mighty Mouse, Series 790/791/793/795*	Part Number *for Series 806, Series 792*
#8 *Sealing Boot Not Included*	 680-116-8	 680-116-80
#8 *Sealing Boot Included*	 680-116-8B	 680-116-80B

S T U V W X Y Z

OPTIMIZED
FOR USE WITH
turboflex®
THE ULTRA FLEXIBLE RUGGED POWER CABLE

921™ SERIES
SUPER ITS

Super ITS-921 high-performance reverse-bayonet power connectors IAW M5015

Reverse-bayonet derivatives of M5015 / VG95234 threaded connectors have long been preferred for their rapid mating and rugged resistance to vibration and shock in harsh-environment applications. The Glenair Super ITS - 921 is an ultra high-performance version of the reverse-bayonet M5015 / VG95234 power connector, designed for high-ampacity applications where low insertion force LouverBand type contacts, mechanical contact retention, broad temperature tolerance, reduced size, and superior connector and wire sealing are required.

Super ITS - 921 is an extremely durable and environmentally sealed connector, designed with its own set of high-density contact insert arrangements. Unlike conventional 5015-type connectors designed for industrial and rail applications, the Super ITS - 921 offers uncompromising electrical, mechanical, and environmental performance features such as precision-machined aluminum alloy or stainless steel shells with 2000 mating cycle lifespan, rigid thermoplastic two-piece insulators, and machined, highly conductive copper alloy LouverBand contacts. Super ITS - 921 delivers contact and wire support from #16 to 2/0 and 1 mmq – 70 mmq respectively. With ampacity up to 350 amps, and a max working voltage of 2450 VCC / 1750 VCA, this power distribution connector is fully tooled and available for immediate application.

- **Super ITS-921 is a high-density reverse-bayonet connector with reduced size compared to standard M5015**
- **Low insertion force, high-ampacity front-release LouverBand contacts**
- **Rigid thermoplastic insulator with internal contact retention clips**
- **Precision-machined aluminum, stainless steel or marine bronze shells with polarization keys**
- **Interfacial and individual wire sealing for IP67 performance**
- **Broad operating temperature range: -65°C to +180°C**
- **2000-cycle reduced insertion-force mating**

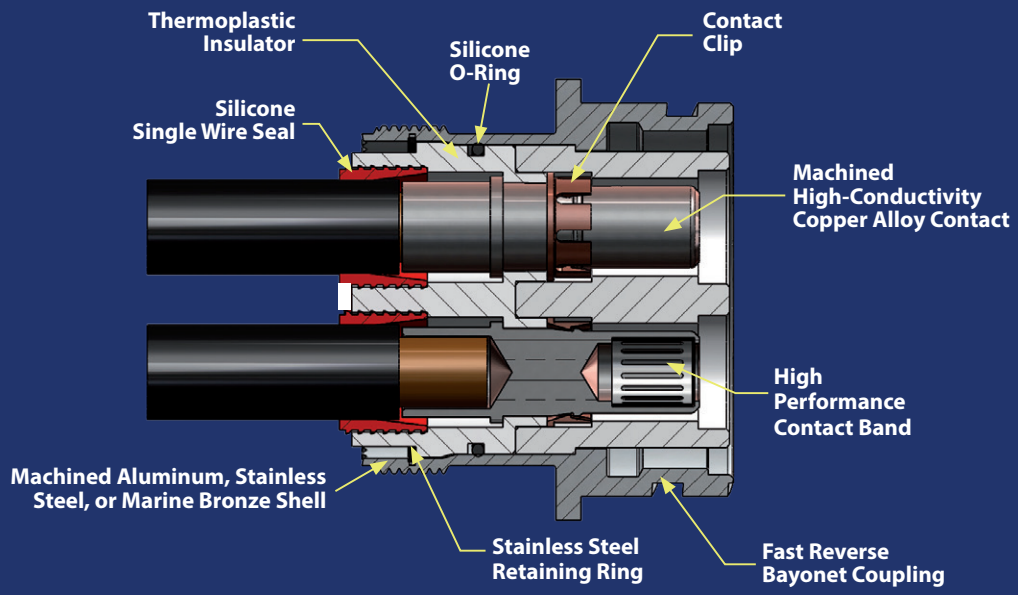
ADVANCED 5015

Super ITS-921 Reverse-Bayonet Rigid Insert, High-Ampacity Connectors

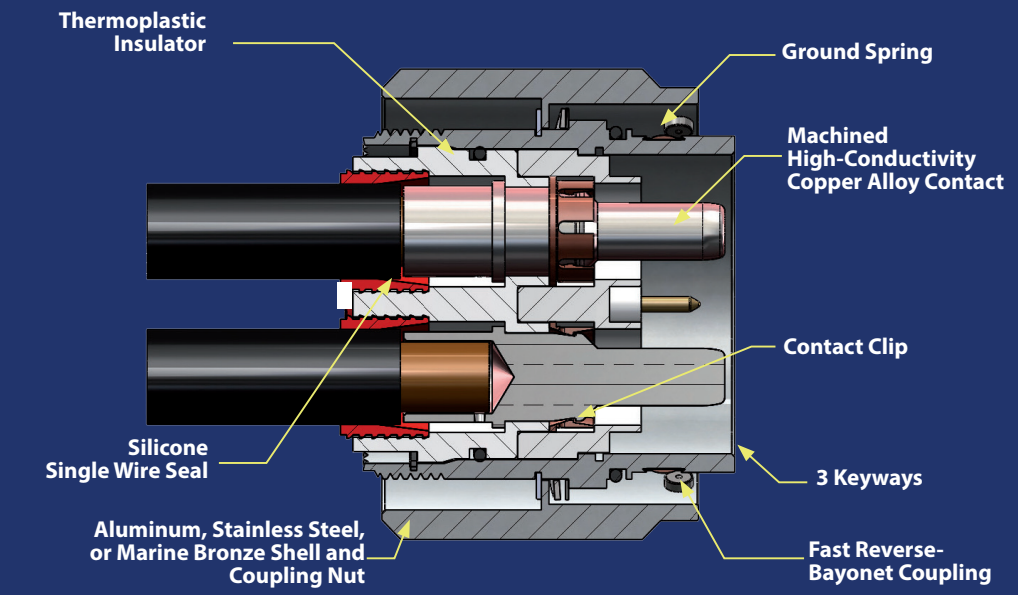
High-durability · Improved wire and connector interface sealing

The Super ITS - 921 Connector Series is a high ampacity, harsh environment connector capable of meeting the demanding requirements of power applications utilizing the latest generation of high-temperature power cables. Compared to legacy 5015 solutions, Super ITS - 921 offers better durability, better wire and connector interface sealing, integrated crimp contact retention clips, thermoplastic insulators, precision-machined shells, and more.

RECEPTACLE



PLUG



- Fast, easy connector mating with reverse-bayonet coupling
- 3 polarizing keys
- Higher-density insert arrangements for reduced size and weight
- LouverBand Size 0, 4, and 8 socket contacts for high ampacity and longer life
- Crimp front-release high-conductivity copper contacts
- Individual wire seals
- -65° C to +180° C operating temperature range
- Size 8, 4, and 1/0 power contact sizes
- Size 16 and 12 signal contact size
- Precision-machined plug bodies and receptacle shells

OPTIMIZED
FOR USE WITH
turboflex
THE ULTRA FLEXIBLE RUGGED POWER CABLE

IFO Fiber Optic
SUPER ITS

Super ITS-IFO B Fiber Optic Reverse-Bayonet Connectors

High-speed, high data rate fiber optic connectors for harsh environmental conditions

Glenair Super ITS - IFO B connectors meet the need for high-speed, multi-gigabit data transmission in rugged harsh environments such as armored combat support vehicles, communications shelters and bunkers, military aircraft, harsh wayside rail applications, and more. These optical fiber-equipped interconnects far outstrip the data carrying capacity and speed of conventional copper wire systems. Super ITS - IFO B interconnects pack orders of magnitude more data with almost instantaneous delivery to the user and are immune to all forms of electromagnetic interference.

Glenair Super ITS - IFO B fiber optic connectors are available with 2, 4, 6, or 12 termini configurations. Termini accommodate 9/125 (Singlemode), 50/125 and 62/125 (Multimode) optical fibers with a maximum 1.4dB insertion loss. Backshells and adapters are engineered to minimize bend radius and provide strain relief with design improvements such as integral wire sealing grommets and retractable conduit fittings. Fiber optic cleaning and inspection toolkits as well as fiber optic termination training and certification are also available.

- **EMI and spark/arc immunity for high-reliability settings**
- **2, 4, 6, or 12 fiber optic termini configurations available**
- **Termini accommodate 9/125 (Singlemode), 50/125 and 62/125 (Multimode) optical fibers**
- **Turnkey high-speed fiber optic interconnect cables and harnesses available**
- **Environmentally sealed (IP67)**
- **UL94-V0 compliant fiber optic cable**
- **Integrated optical media alignment grommet**

Super ITS-IFO B Fiber Optic Connectors

Harsh-environment · Singlemode and multimode

SUPER ITS-IFO B FIBER OPTIC CONNECTORS

2-Pole fiber optic, shell size 10SL connector with environmental sealing PHM or Strain Relief PHM backshell

SUPER ITS-IFO B FIBER OPTIC CONNECTORS

4-Pole fiber optic, shell size 16S connector with environmental sealing strain relief backshell and Kevlar fiber retention

SUPER ITS-IFO B FIBER OPTIC CONNECTORS

6-Pole fiber optic, shell size 24 connector with environmental sealing PG backshell for conduit termination or PGSW backshell with strain relief for use with jacketed cables

SUPER ITS-IFO B FIBER OPTIC CONNECTORS

12-Pole fiber optic, shell size 32 fiber optic connector with environmental sealing PG backshell for conduit termination

OPTIMIZED
FOR USE WITH
SeaKing
PRESSURE-RATED CABLES

Super ITS-RG "RadGrip" reverse-bayonet 5015-type rubber-covered plug connectors

The reverse-bayonet power and signal connector with improved user ergonomics

Glenair Super ITS-RG Series connector plugs with RadGrip™ rubber coupling nut covers are ideal for harsh environmental field applications such as geophysical exploration in arctic conditions, where cryoadhesion (moist skin freezing to metal) is a risk. Super ITS-RG RadGrip™ connectors feature wide, easy-to-grip castellations as well as a raised thumb tab. Built for maximum durability and mechanical protection of plug coupling nuts, Super ITS-RG RadGrip™ is the perfect solution for protection against abusive handling and other forms of mechanical damage. In addition, RadGrip™ facilitates rapid mating and demating of connectors, even when surfaces are slick with oil, dust, water, and other fluids. The highly durable rubber compound may be specified in seven different colors for improved connector and cable identification and management.

Colors available: black, yellow, red, blue, light green, orange, and grey.

RadGrip™ covers adhere easily to aluminum alloy, stainless steel, and marine bronze versions of Glenair ITS reverse-bayonet power and signal connectors.

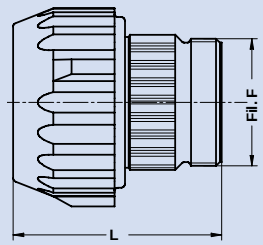
- **Fast, easy, reverse-bayonet coupling: 1/4 Turn**
- **IP67 (mated condition)**
- **Compatible with all Series ITS 5015 Type connectors**
- **High shock and vibration resistance**
- **200 plus insert arrangements available with contact sizes from #20 to #4/0**
- **Audible and visual coupling indicators**
- **Colored materials facilitate connector and cable identification such as in multi-phase power applications**

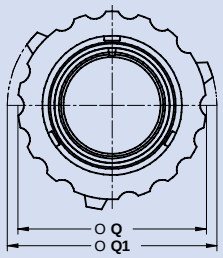
"RADGRIP"

Super ITS-RG Rubber Covered Plug Connectors

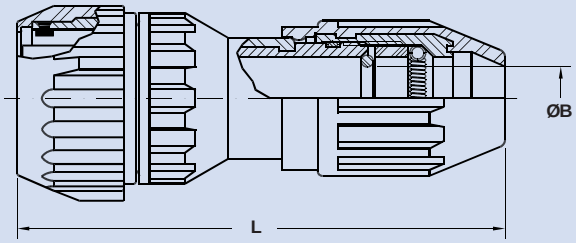
Reverse-bayonet power and signal IAW MIL-DTL-5015

AVAILABLE RADGRIP-EQUIPPED SUPER ITS CONFIGURATIONS

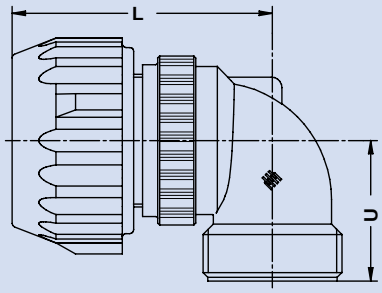


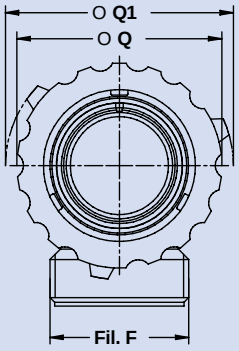


ITS-RGG (06) Straight Plug

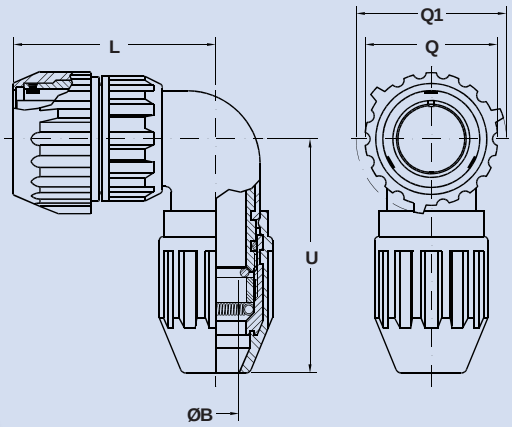


ITS-RRG (06) Straight Plug with EMI/RFI Cable Sealing Backshell

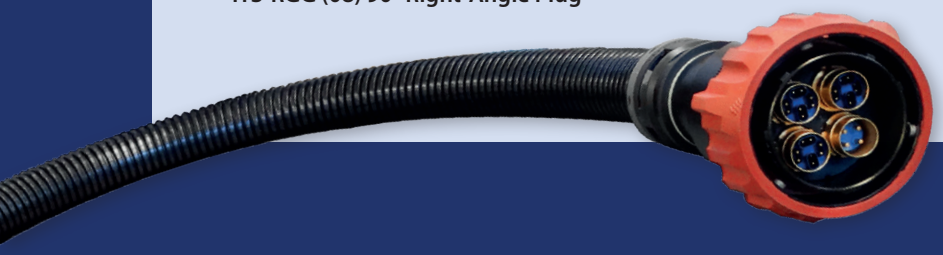




ITS-RGG (08) 90° Right-Angle Plug



ITS-RRG (08) 90° Right-Angle Plug with EMI/RFI Cable Sealing Backshell



Turnkey Super ITS-RG RadGrip cable assemblies available. Example shown equipped with high-speed Octobyte contacts and high-temperature wire-protection conduit.

SUPER ITS-RG RADGRIP™ REINFORCED RUBBER COUPLING NUT CONNECTORS

Super ITS-RG (Basic Black)

Super ITS-RG (Yellow)

Super ITS-RG (Fiber Optic Blue)

Super ITS-RG (Safety Red)

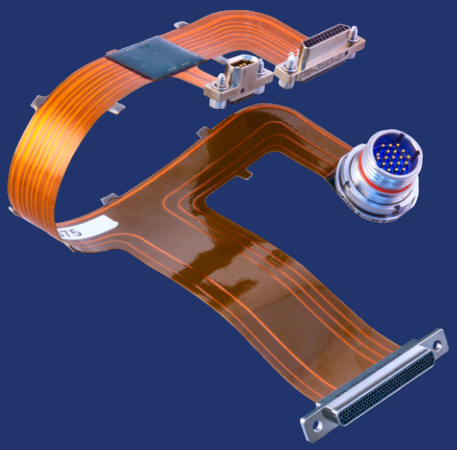
S T U V W X Y Z

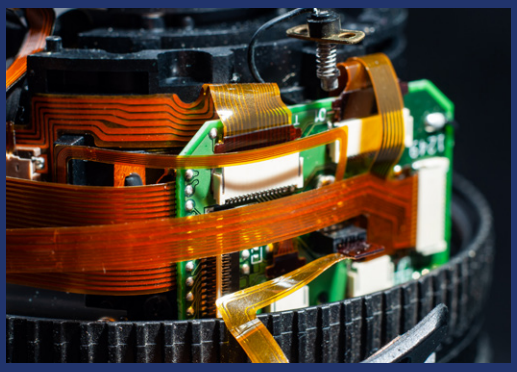
AEROSPACE-GRADE

SuperFlex™

PCB/FLEX CIRCUIT ASSEMBLIES

Turnkey connectorized flex and rigid flex interconnect assemblies—electrical and optical—incorporating Glenair-made circular and rectangular PC-tail connectors—terminated, tested, and ready for immediate use.





Glenair SuperFlex are PCB / flex interconnect assemblies, produced 100% in-house by Glenair utilizing our own high-performance range of printed circuit board connectors. Typical SuperFlex assemblies are I/O-to-board format solutions designed for optimal size, weight, and routing.

In many applications, Glenair flex and rigid-flex interconnect circuits are superior to conventional wiring as they can be easily routed in three dimensions, are lighter and smaller than discrete wires, and offer virtually unlimited flex cycles in articulated applications.

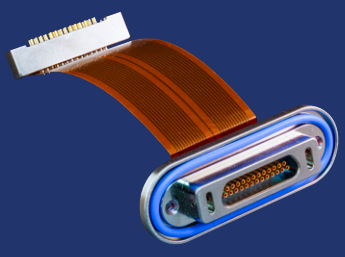
Compared with conventional wiring, compact, flexible SuperFlex printed circuit assemblies reduce system complexity and assembly time as well as enhance reliability. Due to their low mass and high circuit density, SuperFlex assemblies are less susceptible to impact and vibration damage than conventional wire harness assemblies, making them an ideal choice in missile and other reduced form-factor applications. Shielding, strain relief, as well as single- and double-sided designs are standard features.

IPC

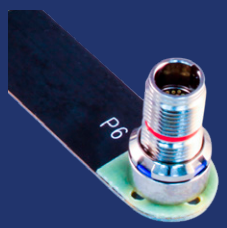
IPC 6012/6013 Class I, II, III, Types 1–4 Certified Production

Glenair recommends commercial customers specify IPC-6012/6013 standards of workmanship, which are fully supported by Glenair. Military customers may alternatively cite specifications IAW MIL-PRF-31032.

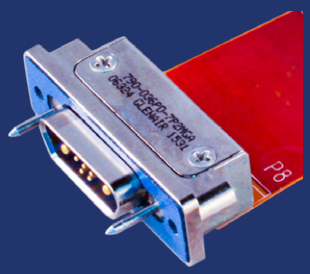
GLENAIR SIGNATURE PC-TAIL CONNECTOR TYPES AVAILABLE IN TURNKEY FLEX ASSEMBLIES



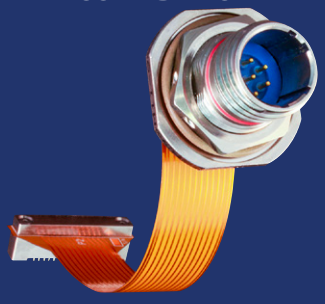
Series MWD Micro-D and spring-contact AlphaLink



Series 88 SuperFly

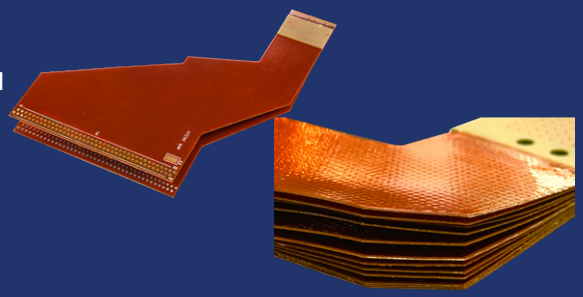


Series 79 Micro-Crimp



SuperNine MIL-DTL-38999 type flex with board connector

Glenair SuperFlex turnkey connectorized flex and rigid flex interconnect assemblies incorporate our in-house flex circuit fabrication and innovation. All SuperFlex assemblies are optimized with ground planes and shields, strain relief features, mounting points for improved resistance to vibration and shock, and are available in multi-layer and double-sided configurations. All terminations backpotted for compliance with conformal coating processes. Optical and electrical solutions available. Special long-length assemblies up to 78 inches.

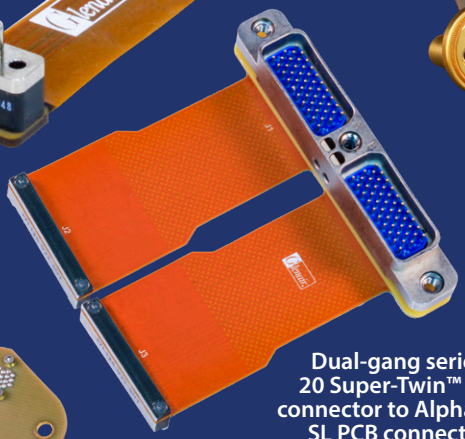


MULTIBRANCH SUPERFLEX ASSEMBLIES WITH GLENAIR SIGNATURE CONNECTORS

Aerospace-grade Micro-D flex assembly with NASA EEE-INST-002 screening

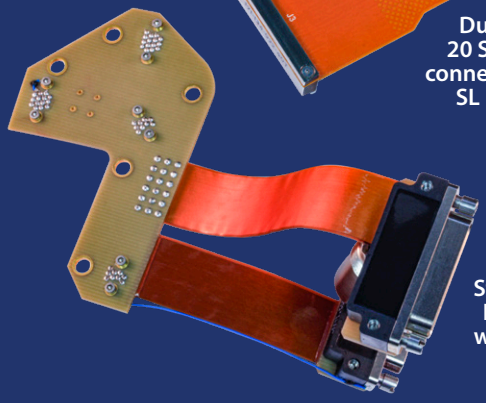
High-shock matched-impedance Mighty Mouse assembly with flex circuit

Aerospace-grade Series 28 HiPer-D to Series 80 Mighty Mouse I/O jumper: a tight space-constrained rectangular-to-circular solution

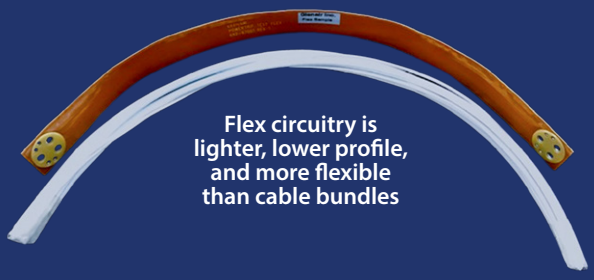


Dual-gang series 20 Super-Twin™ I/O connector to AlphaLink SL PCB connector

Hybrid flex/rigid flex multibranch Micro-D and Series 23 SuperNine flex assembly with discrete RF circuits



Stacked Micro-D I/O connectors with flex jumper to rigid PCB assembly

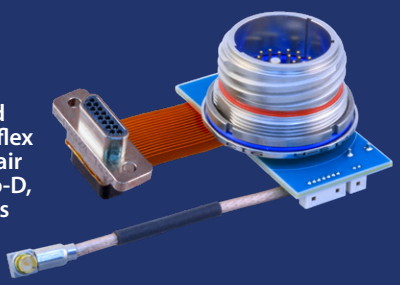


Flex circuitry is lighter, lower profile, and more flexible than cable bundles

Fairway-Flex™
LONG-LENGTH FLEX ASSEMBLIES

Special "Fairway-Flex" long-length HiPer-D assembly with clock-spring design element

High vibration and shock resistant rigid flex assembly with Glenair Mighty Mouse, Micro-D, and RF connections



S T U V W X Y Z

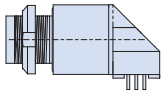
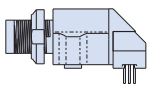
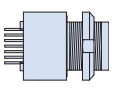
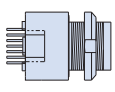
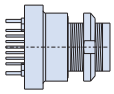
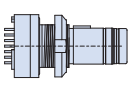
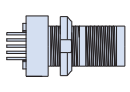
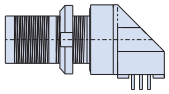
OPTIMIZED
FOR USE WITH
MIL-STAR™
HIGH-PERFORMANCE HOOKUP WIRE AND CABLE

SuperFly® The Ultimate Nano Miniature Tactical Connector

Mighty Mouse not small enough? Meet the toughest, smallest, and highest-speed connector we've got—ideal for soldier-wearable C4ISR equipment.

- **Push-pull version with high / low force release option**
- **Threaded version for secure mating**
- **Hybrid contact system**
- **First mate / last break power contacts**
- **Layouts and contact spacing optimized for high-speed**

PRINTED CIRCUIT BOARD PLUG AND RECEPTACLES

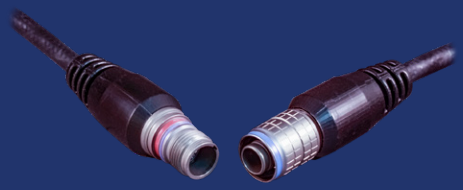
QUICK-DISCONNECT						THREADED	
							
Right Angle, Rear Panel Mount	Right Angle, Rear Panel Mount, PCB Mounting Holes	Vertical, Rear Panel Mount	Vertical, Rear Panel Mount, PCB Mounting Holes	Vertical, Rear Panel Mount, Ground Pins	Vertical Plug, Rear Panel Mount	Vertical, Rear Panel Mount	Right Angle, Rear Panel Mount

SERIES 88

SuperFly® Nano Miniature Soldier System Connectors and Cordsets

Tactical nano miniature connectors and cables

NANO MINIATURE SUPERFLY® CORDSETS AND PIGTAILS



Overmolded threaded plug and receptacle

Threaded pigtail plug and receptacle

Quick-disconnect overmolded cordset

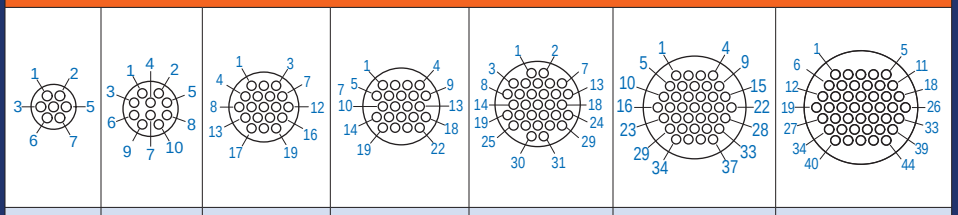
Quick-disconnect pigtail plug and jam nut receptacle

- IP67 immersion rated
- High-reliability contacts: 5 Amp, 3 Amp, and 1 Amp
- High shock and vibration
- Robust EMI shielding
- Designed for high speed data applications
- Pre-wired, epoxy-sealed cordsets
- Straight and 90° PC tail receptacles
- 27 Contact arrangements
- Front or rear panel mounting
- Aluminum or stainless steel
- Accepts #22 to #32 AWG wire

CONTACT ARRANGEMENTS

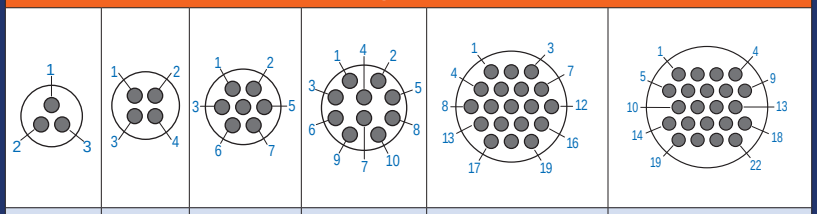
Series 88 SuperFly connectors are available in 27 contact arrangements with 1 Amp, 3 Amp, 5 Amp contacts, and mixed-contact hybrid arrangements

1 AMP



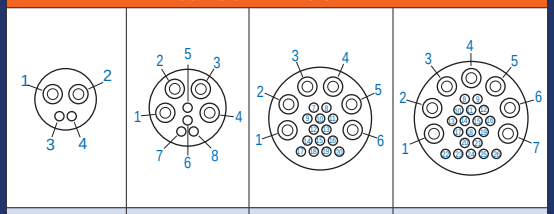
B7N (7) 1A	C10N (10) 1A	E19N (19) 1A	F22N (22) 1A	G31N (31) 1A	H37N (37) 1A	J44N (44) 1A

3 AMP



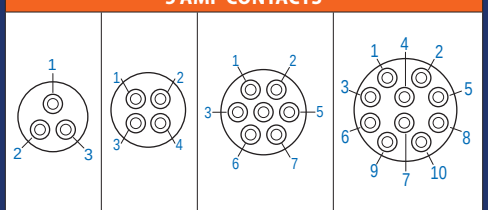
D3M (3) 3A	E4M (4) 3A	F7M (7) 3A	G10M (10) 3A	K19M (19) 3A	L22M (22) 3A

COMBO 1 AMP & 5 AMP



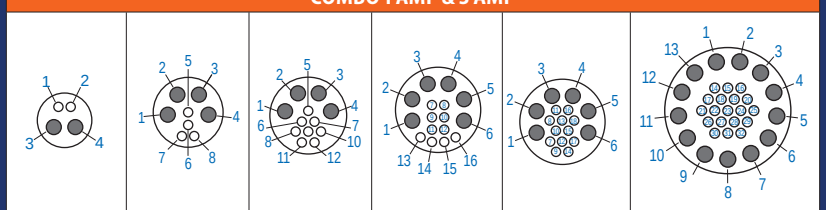
D2W2N (2) 1A, (2) 5A	F4W4N (4) 1A, (4) 5A	H6W14N (14) 1A, (6) 5A	J7W19N (19) 1A, (7) 5A

5 AMP CONTACTS



E3W (3) 5A	F4W (4) 5A	G7W (7) 5A	H10W (10) 5A

COMBO 1 AMP & 3 AMP



C2M2N (2) 1A, (2) 3A	E4M4N (4) 1A, (4) 3A	F4M8N (8) 1A, (4) 3A	G6M10N (10) 1A, (6) 3A	G6M12N (12) 1A, (6) 3A	K13M19N (19) 1A, (13) 3A

S T U V W X Y Z

OPTIMIZED
FOR USE WITH
SpeedLine™
High-Speed Protocol Cables

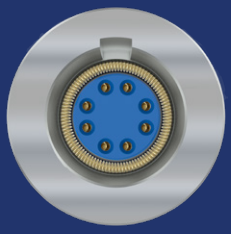
SUPERFLY DATALINK

The **nano miniature** 10G Ethernet, USB 3.0, and DisplayPort connector with El Ochito® octaxial contact technology

High speed, harsh environment SuperFly® Datalink connectors–with shielded El Ochito® octaxial contacts for 10Gb Ethernet, SuperSpeed USB, and high datarate video display protocols–deliver outstanding signal integrity and save significant size and weight compared to Quadrax.

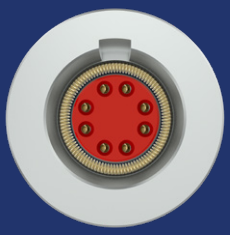
SuperFly Datalink White

Up to 40G Ethernet



SuperFly Datalink Blue

SuperSpeed USB



SuperFly Datalink Red

HDMI, DisplayPort 1.4, and SATA

- **Ultra-small size**
- **Shielded Octaxial contacts**
- **Up to 5 Gbps**
- **10Gb Ethernet and SuperSpeed USB**
- **El Ochito Red insert for high-speed video; consult factory for layouts**
- **Environmentally protected**
- **Factory-terminated cables or discrete contacts and cables for customer assembly**

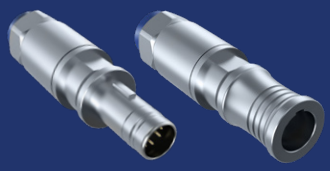
SERIES 882

SuperFly® Datalink High-Speed Nano Miniature

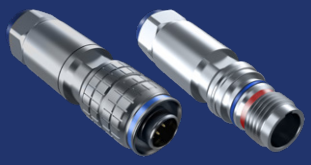
With El Ochito® octaxial contact technology

CONNECTOR CONFIGURATIONS

Quick -disconnect "push-pull" versions are ideal for tactical gear. Threaded-coupling versions are intended for aircraft and space-grade applications where secure mating is a requirement.

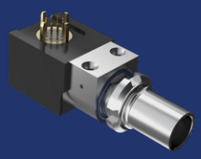


Quick Disconnect

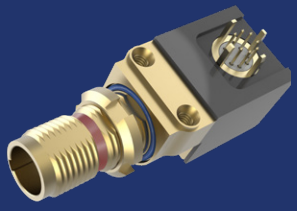


Threaded Coupling

Straight PC Tails

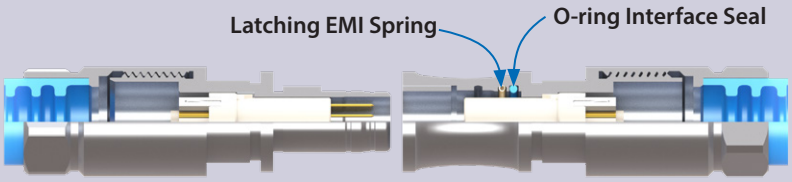


Right Angle PC Tails



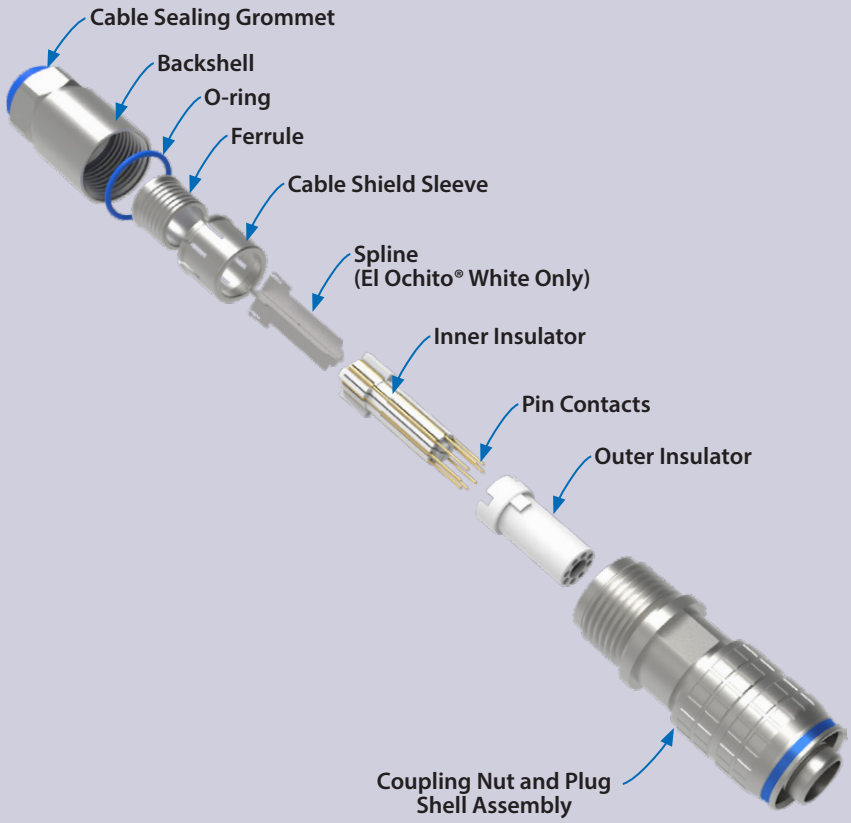
Conformal-coating-compliant panel mount connectors

PUSH-PULL QUICK-DISCONNECT



Push-pull SuperFly Datalink receptacle connectors feature a canted coil spring for secure mating and excellent EMI protection. A fluorosilicone O-ring provides watertight sealing when mated.

THREADED-COUPLING CABLE CONNECTOR

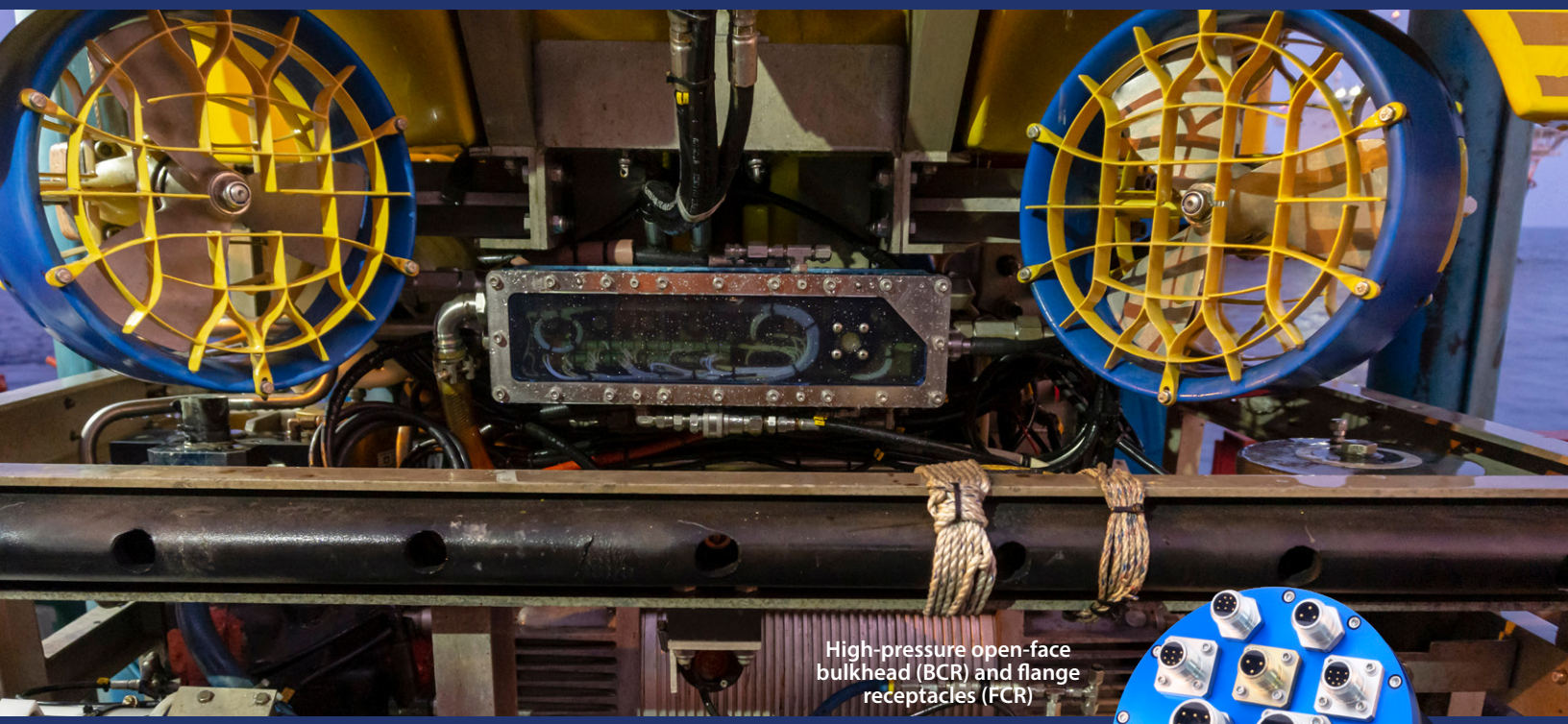


Cable connectors feature gold-plated crimp contacts, precision insulators, integral backshell, sealing grommet, and machined shells. Cable connectors are available as unassembled kits or ready-to-use factory-terminated cordsets.

OPTIMIZED
FOR USE WITH

SeaKing
PRESSURE-RATED CABLES

SuperG55 Advanced-performance Series 55-type subsea connectors and cables



High-pressure open-face bulkhead (BCR) and flange receptacles (FCR)

The SuperG55™ family of dry-mate underwater deep-sea high-pressure connectors is a revolutionary upgrade of the popular industry standard used in countless ROV, underwater camera, diver communications, lights, pan and tilts, and other deep subsea applications.

Available in multiple shell sizes , the SuperG55™ is manufactured from 316L Stainless Steel with insert molded contact assemblies designed for pressure-sealed applications up to 10K psi mated and unmated. Intermateable and intermountable with other "55" series connectors, the Glenair solution introduces a long list of product innovations designed to improve performance and durability. Our PBOF versions, for example, utilize easy-to-assemble threaded fittings that deliver superior sealing performance while reducing installation time. Other innovations include full-mate inspection ports, improved solder cup contact design, and more. Cable plugs and receptacles are available in attachable (user-terminatable) versions as well as factory overmolded single-ended whips.

Bulkhead Connector Receptacle (BCR)

Factory-terminated overmolded Cable Connector Plug (CCP)

Flange Connector Receptacle (FCR)

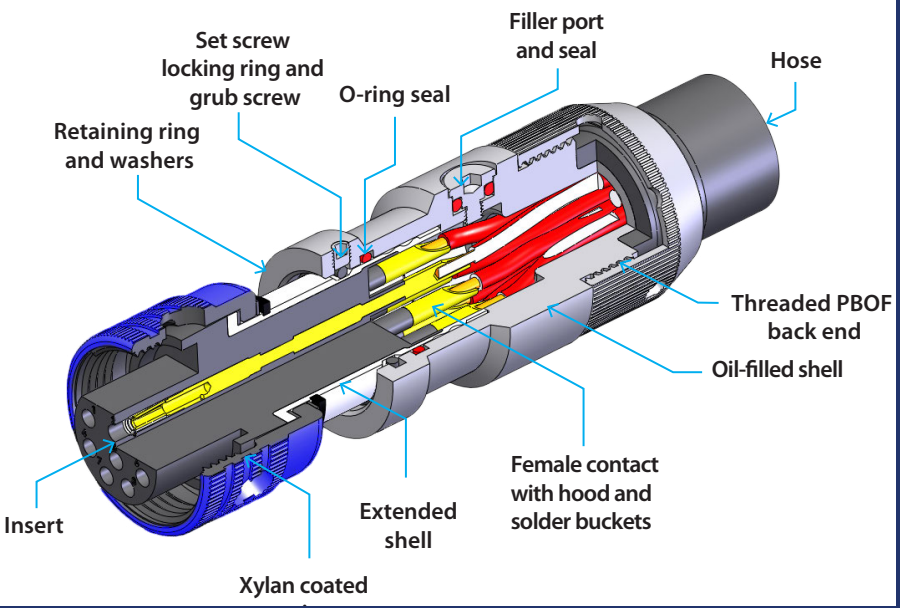
- **10,000 psi mated/ unmated (20,000 ft / 7,000m)**
- **Recessed socket contacts in plugs for electrical safety**
- **Intermateable and intermountable with other "55" series connectors**
- **4 shell sizes — 15, 20, 24, and 32 with 3 to 39 contacts**
- **PBOF versions available**
- **600 VDC, 5 to 18 Amps (dependent on conductor and cable size and make-up)**

DRY-MATE

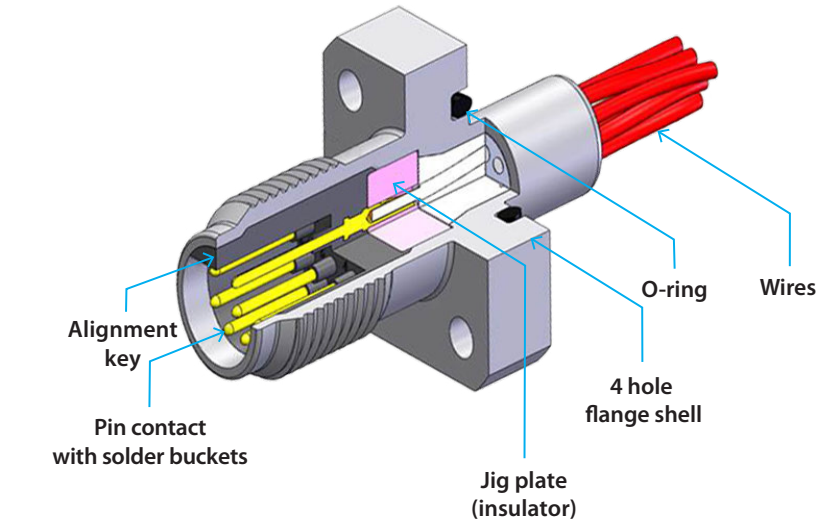
SuperG55™ Subsea Connectors and Cables

10K psi / 700 bar / 7000m

SUPER G55™ PRESSURE-BALANCED OIL-FILLED CABLE CONNECTOR PLUG (CCP)



SUPER G55™ FLANGE CONNECTOR RECEPTACLE (FCR)



MATERIAL FINISH CODES			
Code	Material/Finish	Code	Material/Finish
	Anodized Aluminum	PK	Composite Thermoplastic (PEEK)
NAB2	Aluminum Bronze	B	Brass
T	Titanium	Alternative materials available, contact factory	

SUPER G55™ PERFORMANCE SPECIFICATIONS	
Mating Cycles	500
Pressure	689 bar (10,000 psi) Mated and Un-mated
Operating Temperature	-20°C to +90°C
Voltage Rating	600 VDC / 440 Vac
Current (max.)	5 to 18 Amps (dependent on contact and cable conductor sizes)

SUPER G55™ MATERIAL/FINISH	
Shells	316L Stainless Steel/ Passivated
Insulator	PEEK/NA
Insert	Neoprene/NA
Contacts	Copper Alloy/Gold Plated
O-rings	Nitrile/NA
Overmold and Cable	Polyurethane or Neoprene/NA
Coupling Nut	316L Stainless Steel/ Protective Coating Blue
Bulkhead Receptacle Tails	PTFE Insulated 16 AWG Wire/NA
Cable	Polyurethane or Neoprene Jacketed/NA

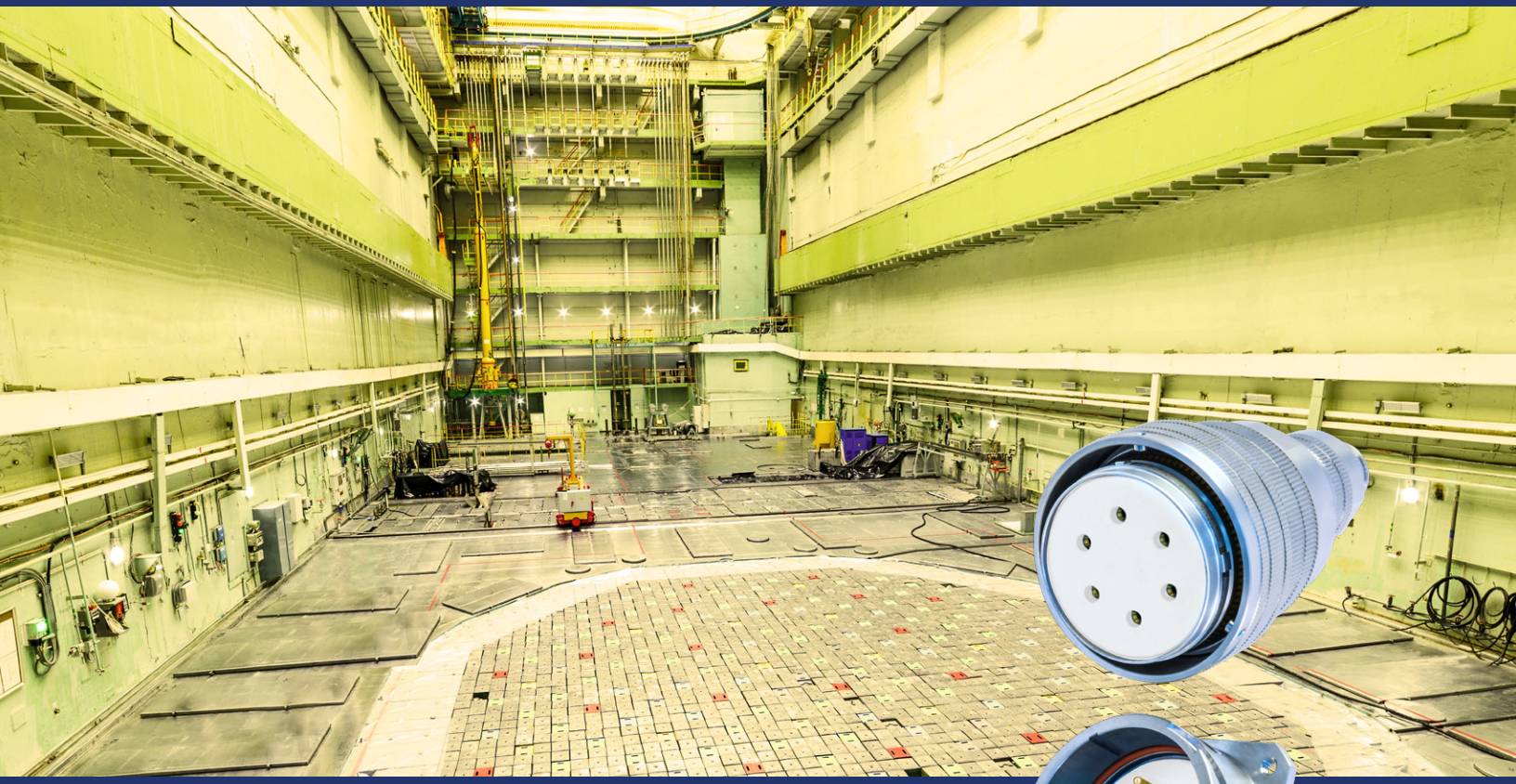
NON-STANDARD MATERIALS: Other material options are available as part of our non-catalog offerings including anodized aluminum, titanium, and aluminum bronze. Glenair is also able to supply SuperG55™ interconnects in composite thermoplastic (PEEK) to meet application requirements for reduced cathodic corrosion as well as weight reduction without affecting connector performance.

HIGH-SPEED ETHERNET: The SuperG55™ Ethernet option is available in the 1508, 2013, and 2022 contact configurations and provides both high-speed operation up to 75 meters, and power (600 Volts) in a full subsea environment (10,000 psi) solution.

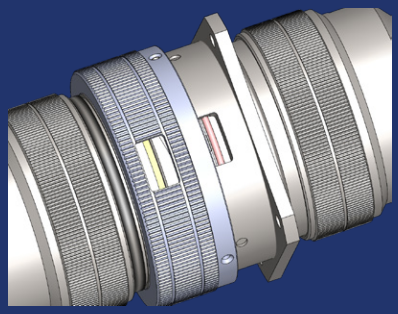
OPTIMIZED
FOR USE WITH
MIL-STAR™
HIGH-PERFORMANCE HOOKUP WIRE AND CABLE

SUPER NG

SuperNG reverse-bayonet connectors for nuclear-industry Zone 1E Applications



The Glenair SuperNG series is designed to exceed the most stringent Gen III zone 1E plant LOCA qualification criteria, including those requiring long-term submersion and a 60 year plus installed life. SuperNG quick connect connectors utilize potted machined stainless steel shells on both plug and receptacle, with triple keyways and a precise reverse-bayonet coupling system, designed to ensure simple and accurate mating alignment by double-gloved technicians during outage servicing. Precision-machined non-organic ceramic inserts guarantee lifetime contact alignment and maximum temperature and radiation resistance. Double peripheral seals are formulated from a Glenair signature EPDM material specifically designed for high radiation and high temperature zone 1E applications. SuperNG offers full EMC compliance to the most severe Gen III plant requirements.



Signature double O-ring peripheral seal

SuperNG connectors are available in a broad range of shell sizes and contact configurations with industry-standard NPT threads for device mounting of receptacles to pressure transducers, solenoids, and limit switches, as well as configurations for all other plant I&C and small to medium motor applications, including CRDM, DRPI, and fan RTDs and motors.

- **Machined / passivated stainless steel shells**
- **Stainless steel backshells for backpotting**
- **NPT threaded plugs and receptacles**
- **Radiation-resistant inserts, gaskets, seals, O-rings**
- **Standard signal, power, or thermocouple contacts**
- **Triple polarization keys and keyways**

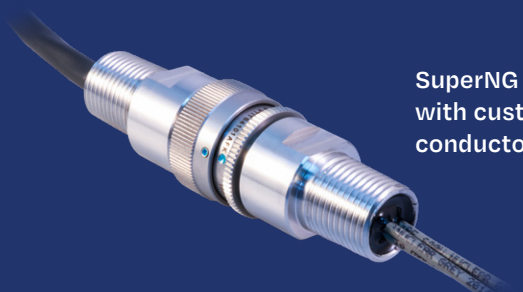
NUCLEAR-GRADE

SuperNG Connectors and Cables for Stringent Gen III Containment Area Applications

Double peripheral sealing

Glenair SuperNG connectors are optimized for containment area applications in modern Gen III nuclear plants that require performance to the industry's most severe requirements, including high radiation resistance, high-temperature tolerance, fluid/chemical resistance, and corrosion resistance. Non-organic ceramic inserts guarantee radiation and temperature resistance for a 60+ year installed life, and custom-formulated EPDM O-rings ensure maximum performance and long-term compression set resistance. All components are manufactured in-house under our 10CFR50 Appendix B audited nuclear quality program.

Test Phase	Qualification Parameter Levels
Functional Tests (repeated between test phases)	Insulation Resistance (500VDC) Contact Resistance (1 amp applied current) Dielectric Withstand Voltage (2200VAC/60 sec) Visual Inspection
Thermal Aging	Arrhenius Methodology for 60 Year Qualified Life O-Rings replaced at 10 years or each mating cycle QL includes Normal + Abnormal environment
Thermal Cycle Aging	100 Cycles 70°F to 175°F (2 hour dwell times) 15Cycles 70°F to 250°F (2 hour dwell times)
Connection Cycling	550 Connect/Disconnect Cycles unpowered
Radiation Aging and Accident Radiation	275 Mega-Rads (Gamma + Beta radiation) @ < 1.0 Mrads/hr
Vibration Aging	90 min/axis (X,Y,Z) @ 0.75g from 5 – 100 – 5 Hz
Seismic Qualification	IEEE 344 (RMF) & IEEE 382 (RIM) testing RMF: 5 OBE = 1 SSE, 1-100HZ, ZPA >12g RIM: Res Search, 2 OBE + 1SSE sine motion (IEEE382) Powered & Monitored for chatter/continuity & shorting >1 msec
Containment Pressure	75 psig air for 24 hours at 24°C Powered & Monitored for continuity and shorting
Accident Qualification	Steam Test with, Two Transients, RT to 435°F/75 psig in 20 sec Transient 1: RT to 325°F in <5 sec, Reach 435 in 20 sec, 2 hrs Transient 2: RT to 325°F in <5 sec, Reach 435 in 20 sec, Chemical Spray (pH max 11.0), 27 hours of spray, Once temp cools to 185°F, flood chamber with chem spray solution and leae test specimens submerged for 1 year. Powered and Monitored continuously for continuity and shorting



SuperNG mated pairs are available as qualified prewired and potted assemblies with customizable cable length on the field side, as well as length of individual conductors on the device side for specific application requirements.

GLENAIR SUPERNG ZONE 1 INTERCONNECT APPLICATION SUPPORT

SuperNG is optimized for equipment applications in containment area Zone 1E including:

- **Valve control/monitoring**
- **Pressure transducers**
- **Control rod drive mechanisms**
- **Rod position indicators**
- **Pressure transmitters**
- **Solenoids**
- **Hydrogen detectors**
- **Fuel handling equipment**

S T U V W X Y Z

OPTIMIZED
FOR USE WITH
MIL•STAR™
HIGH-PERFORMANCE HOOKUP WIRE AND CABLE

SuperNine®

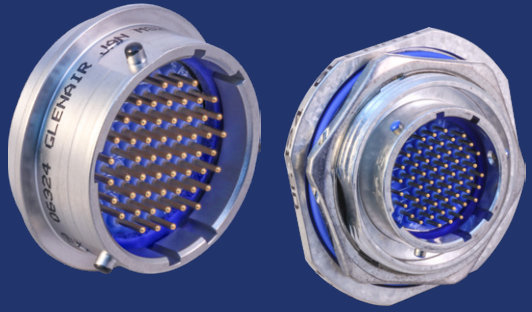
The advanced-performance MIL-DTL-38999 Series I type bayonet-lock connector

"Better-than-QPL" three-point high-vibration bayonet coupling

SuperNine® is a "Better-than-QPL" MIL-DTL-38999 signature series offering available only from Glenair. Series I scoop-proof bayonet-lock connectors deliver outstanding vibration and shock performance and fast mating / demating.

- **Scoop-proof design prevents pin damage and short circuits**
- **Improved, positive-lock, 3-point stainless-steel pin bayonet coupling for outstanding shock and vibration resistance**
- **Fully tooled for all MIL-STD-1560 insert arrangements**
- **Contact options include size #22D, #20, #16, and #12 (see High-Speed series for Size #8)**
- **500 + mating cycles exceeds MIL-DTL-38999 specification**
- **Glenair signature Tin-Zinc finish is RoHS compliant and cadmium compatible**

ALSO AVAILABLE: SUPERNINE SERIES II LOW-PROFILE



SuperNine Series II is a low-profile, non-scoop-proof design that offers the same fast bayonet-lock mating as Series I while saving space and weight. Environmental, Hermetic, and Filter classes available.

SERIES 23

SuperNine MIL-DTL-38999 Series I

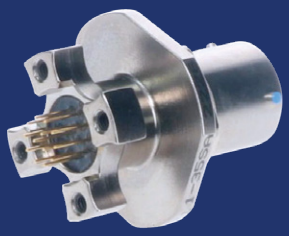
Scoop-proof bayonet-lock connectors with "Better-than-QPL" performance

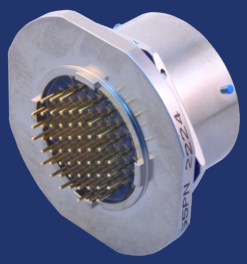
- **Integral banding porch eliminates need for add-on accessories**
- **Improved plug ground fingers deliver outstanding EMI performance**
- **Precision-machined key/keyway polarization for reliable mismating protection**
- **Expanded receptacle styles include clinch nut and helicoil mounting, and i-line configurations**

ENVIRONMENTAL CRIMP-CONTACT AND PC-TAIL CONFIGURATIONS

Integrated banding porch

Sav-Con® connector savers and gender-changing adapters





Dual-standoff, metric and standard-threaded, and washout standoff PC-tail receptacles

HIGH-SPEED ENVIRONMENTAL PLUGS AND RECEPTACLES

SpeedLine™ High-Speed Protocol Cables

Optimized for Glenair signature El Ochito octaxial high-speed contacts and SpeedLine high-speed protocol cable

WHITE

10GBASE-T

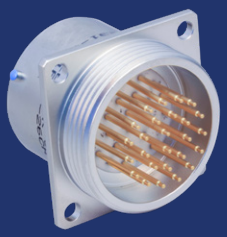
BLUE

USB 3.0

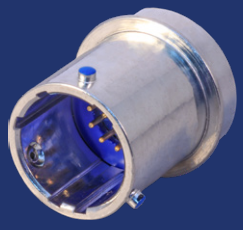
RED

HDMI, SATA, DisplayPort

GLASS-SEAL AND SIGNATURE CODE RED LIGHTWEIGHT HERMETIC CONNECTORS WITH <1 X 10^{-7} LEAK RATE PERFORMANCE



Wall-mount receptacle

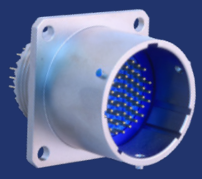


Solder-mount receptacle

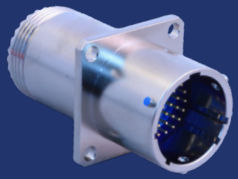
Jam-nut receptacle

Lightweight CODE-RED hermetic seal connectors

EMI/EMP FILTER CONNECTORS



Wall-mount receptacle with PC tail or solder-cup contacts



Wall-mount receptacle with crimp contacts

Jam-nut receptacles—crimp, solder, or PC-tail contacts

Filter Sav-Con® connector adapters

S T U V W X Y Z

OPTIMIZED
FOR USE WITH
MIL•STAR™
HIGH-PERFORMANCE HOOKUP WIRE AND CABLE

SuperNine®

The advanced-performance MIL-DTL-38999 Series III type connector

Glenair recommends SplayMaster cable organizer backshells for high-speed and RF SuperNine applications

SuperNine® Series III is a "Better-than-QPL" MIL-DTL-38999 connector family with outstanding durability, sealing, ease of shield termination, PC tail configurations, environmental and hermetic classes, connector savers, plus off-the-shelf EMI/EMP filter connectors and more—all with Glenair's legendary service, support, and product availability.

- **Across-the-board improvements in mating-cycle and contact durability**
- **Advanced ease-of-use features such as integrated band porches and PC-Tail standoffs**
- **Advanced-performance improvements in every connector class—from filters to composites**
- **Complete range of IP68 PC tail receptacles with high-durability contacts**
- **Five different designs of printed circuit board connector standoffs**
- **DLA QPL versions also available**

QPL qualified

SERIES 23

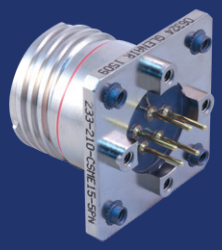
SuperNine MIL-DTL-38999 Series III

Triple-start stub-ACME connectors with "Better-than-QPL" performance

ENVIRONMENTAL CRIMP-CONTACT AND PC-TAIL CONFIGURATIONS

Anti-decoupling, high vibration ratcheting cable plug with integral band porch

Environmental feed-thru receptacle with signature Tin-Zinc RoHS plating materials



Environmentally-sealed PCB receptacle with threaded standoffs and clinch nuts

SuperNine PowerPlay with Crown Ring contacts. Optimized for use with TurboFlex cable

HIGH-SPEED AND RF ENVIRONMENTAL PLUGS AND RECEPTACLES

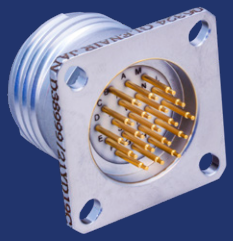
SpeedLine™ High-Speed Protocol Cables

Optimized for Glenair signature El Ochito octaxial high-speed contacts, SpeedLine high-speed protocol cable, and SplayMaster cable organizer backshells

BLUMARK RF COAX CABLES™

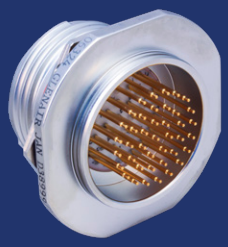
High-frequency RF multi-pin solutions optimized for use with Glenair signature BluMark RF coax cables and SplayMaster cable organizer backshells

GLASS-SEAL AND SIGNATURE CODE RED LIGHTWEIGHT HERMETIC CONNECTORS WITH <1 X 10-7 LEAK RATE PERFORMANCE



Glass-to-metal sealed and lightweight CODE RED encapsulant-seal hermetic

Hermetic bulkhead feed-thrus for variable panel thicknesses



Weld-mount hermetic receptacle

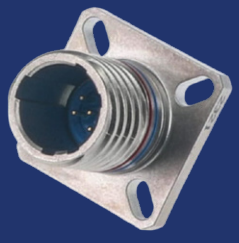
Wire termination options—from solder cup to crimp and PC tail

EMI /EMP FILTER CONNECTORS

Signature Sav-Con filter connector cable adapter with RoHS MegaNickel plating

EMI / EMP filter receptacle with solder cup wire termination

QUALIFIED LIGHTWEIGHT PEEK COMPOSITE



Molded composite thermoplastic PEEK plugs and receptacles in classes J (Cad/O.D.) and M (Electroless Nickel)

S T U V W X Y Z

OPTIMIZED
FOR USE WITH
MIL-STAR™
HIGH-PERFORMANCE HOOKUP WIRE AND CABLE

SuperNine®

QPL qualified

PEEK composite MIL-DTL-38999 Series III DLA-qualified plug and receptacles

Glenair SuperNine versions available with integrated band porch

SuperNine® Series III is a "Better-than-QPL" MIL-DTL-38999 connector family. Glenair's complete capability in this benchmark series now includes qualified Series III plug and wall-mount receptacles in 100% molded composite thermoplastic PEEK, classes J (Cad / O.D.) and M (Electroless Nickel). The series offers outstanding weight savings and unlimited corrosion protection compared to metal versions.

Product Features

- DLA-qualified and Glenair signature composite classes J (Cad) and M (Electroless Nickel)
- D38999/26 plug and D38999/20 wall-mount receptacle
- 20% weight savings versus aluminum class connectors
- Band porch designs = 50% weight savings over backshell / connector configurations
- 100% molded composite (not machined) for superior strength and durability
- 40% carbon-filled PEEK

DLA-QUALIFIED AND GLENAIR SIGNATURE

SuperNine MIL-DTL-38999 Series III Composite

Triple-start stub-ACME composite connectors with "Better-than-QPL" performance

ABOUT GLENAIR 100% MOLDED PEEK COMPOSITE THERMOPLASTIC CONNECTORS

40% carbon-filled PEEK (Polyether Ether Ketone) is a high-performance material used in aerospace-grade connectors due to its superior mechanical strength, thermal stability, and resistance to harsh chemicals and environments. The addition of carbon fibers enhances the material's rigidity and dimensional stability, making it ideal for demanding aerospace applications where high strength-to-weight ratios are crucial. This composite material can withstand extreme temperatures and mechanical stresses, ensuring reliable, lightweight performance in critical interconnect systems in all aircraft zones subject to environmental exposure, high temperatures, vibration, and shock.

MIL-DTL-38999 SERIES III SUPERNINE® COMPOSITE CONNECTOR PERFORMANCE

SuperNine is a high-performance connector family designed for cable-to-panel, I/O, and inline applications in military aerospace and other demanding situations. Environmental composite class versions are supplied with crimp removable contacts as well as PC tails in plug and wall-mount receptacle configurations. This table describes the most basic attributes for environmental class products supplied by Glenair.

Series Description	Scoop-Proof, Triple Start, Self-Locking
Supported Contact Types and Gauges	8, 12, 16, 20, and 22D gauge contacts, standard density and 23 gauge high density arrangements; 1 to 187 contacts. Crimp, solder and PCB tails
Coupling/Mating Design	Triple-start threaded coupling design, rapid advance, self-locking and full-mate indicator, keyed
EMI Shielding	Shell to shell bottoming, grounding fingers, conductive finish and thick shell wall cross-sections provide effective EMI shielding to 65 dB minimum up to 10 GHz
Vibration and Shock	Excellent resistance to vibration and shock with no electrical discontinuity and no disengagement of the mated connectors per MIL-DTL-38999 (paragraph 3.27 & 3.28)
Mating Speed	360 ° or one full turn to full mate
Materials	100% molded PEEK carbon filled shells, Fluorosilicone/Silicone blend seals, Beryllium Copper alloy, Gold-plated contacts
Durability	1500 mating cycles
IP Rating	Receptacles with non-removable PC tail contacts IP67; Removable contacts in mated condition, IP68
Outgassing	Available in accordance with NASA standards

Current Rating

Contact Size	Maximum Amps Crimp Contact Environmental	Contact Size	Maximum Amps Crimp Contact Environmental
23	5	16	13
22D	5	12	23
20	7.5	8	46

S T U V W X Y Z

OPTIMIZED
FOR USE WITH
MIL•STAR™
HIGH-PERFORMANCE HOOKUP WIRE AND CABLE

SuperNine®

The advanced-performance MIL-DTL-38999 Series IV breech-lock connector

From vertical launch fire-control, tracking, and multi-target missile systems to rugged industrial applications, Glenair "Better-than-QPL" SuperNine and DLA-qualified D38999 Series IV connectors are the ultimate solution for positive and reliable breech-locking performance.

- QPL manufacturer of MIL-DTL-38999 Series IV Class F, W, and G connectors
- "Better-than-QPL" SuperNine Series IV offers advanced performance and features beyond the mil-spec
- Optimized for SWAMP area applications
- Quick-disconnect 90° breech coupling mechanism
- Visual, audible, and tactile full-mate indicators
- Integrated EMI grounding fingers
- -65°C to 200°C operating temperature range

QPL QUALIFIED AND GLENAIR SIGNATURE

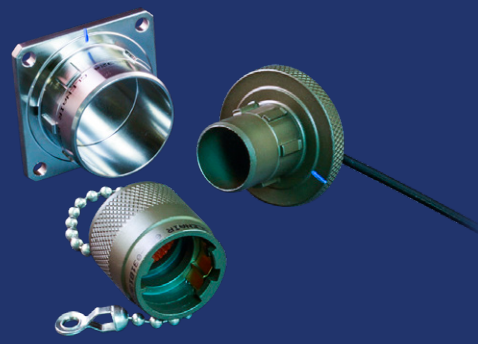
SuperNine MIL-DTL-38999 Series IV

Breech-lock connectors with "Better-than-QPL" performance

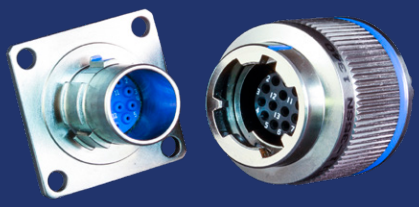
SUPERNINE SERIES IV "BETTER-THAN-QPL" FEATURES AND BENEFITS

- Secure breech-lock mating connector meets D38999 shock and vibe
- Integral banding porch eliminates need for back-end accessories
- Improved plug ground fingers deliver outstanding EMI performance—equal to D38999 Series III
- Glenair Signature Tin-Zinc finish class is RoHS compliant and cadmium compatible
- Precision-machined key/keyway polarization for reliable mismating protection
- Scoop-proof design prevents pin damage and short circuits
- Fully tooled for all MIL-STD-1560 insert arrangements
- Contact options include size #22D, #20, #16, #12, and High-Speed Twinax, Quadrax, and Octaxial El Ochito Size #8 plus hybrid arrangements
- 500 mating cycles exceeds MIL-DTL-38999 specification

38999 SERIES IV ACCESSORIES



QPL accessories including protective covers and dummy receptacles

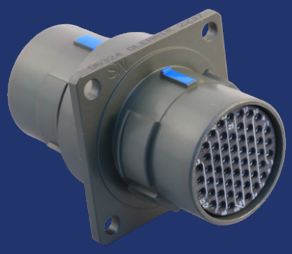


Series IV solutions are available in environmental and hermetic class configurations in shell sizes from 11–25 supporting a popular range of MIL-STD-1560 insert arrangements

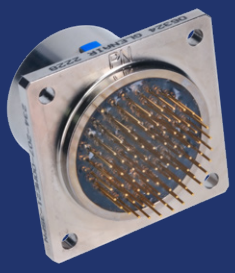
Glenair's complete Series IV solution includes support for power, signal, and hybrid insert arrangements including shielded coax, #22, #20, #16, and #12 contacts

"BETTER-THAN-QPL" SUPERNINE SERIES IV CONNECTOR DESIGNS

Sav-Con® connector saver, black zinc-nickel finish



Dual-flange panel-mount feedthrough



Panel-mount receptacle with sealed PC-tails

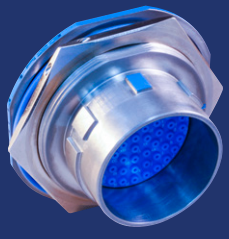
Plug with wing-lock coupling and EMI ground fingers

SUPPORTED CRIMP-CONTACT SHELL STYLES

Plug

Wall-Mount Receptacle

Box-Mount Receptacle



Jam-Nut Receptacle

In-Line Receptacle

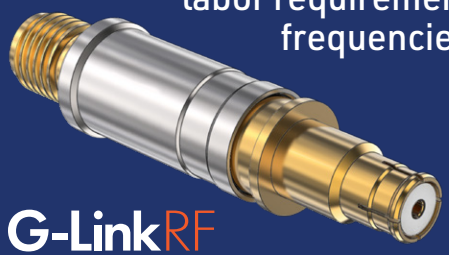
S T U V W X Y Z

OPTIMIZED
FOR USE WITH
BLUMARK RF
COAX CABLES

SuperNine®

SuperNine RF
Aerospace-grade multiport coax connector for RF, microwave, and mmwave applications

Glenair Series 23 SuperNine connectors support one to twenty-nine high-frequency RF contacts. The "Better than QPL" series features precision-machined aluminum or stainless steel shells and fluorosilicone grommets for excellent mating and environmental performance. Fifteen contact layouts, eight shell sizes, and support for #8 BMB, #12 SMPM, or #16 SMPS contacts. Glenair signature G-LinkRF contacts with fast RF cable termination reduce assembly time and skilled labor requirements. Series supports RF frequencies from DC–65 GHz.



G-LinkRF

Save time and improve reliability. Series 23 SuperNine RF connectors are optimized for use with 26.5 GHz G-Link RF contacts with integral female SMA adapter for attaching SMA plug directly to the contact.

- **Fifteen MIL-STD-1560 layouts for size #8, #12, or #16 RF contacts (sold separately)**
- **Rugged aluminum or stainless steel shells**
- **Environmentally-sealed and shielded for mission-critical application performance**
- **Scoop-proof mating interface**
- **EMI spring on plugs for low connector-to-connector resistance**
- **Snap-in, rear-release contacts**
- **Available extended-length backshells improve routing and protect coaxial cables**

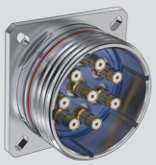
AEROSPACE-GRADE

SuperNine RF Multiport Connectors

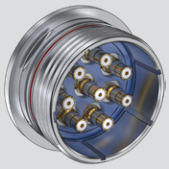
For use with size #8, #12, and #16 drop-in high-frequency RF contacts

SUPERNINE RF CONNECTOR SELECTION GUIDE

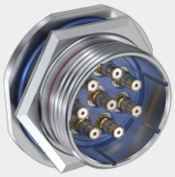
233-290-G6
Plug, EMI Spring



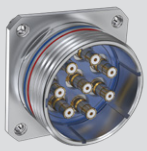
233-290-00
Wall-Mount Receptacle



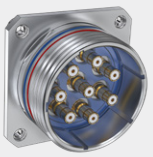
233-290-05
In-Line Receptacle



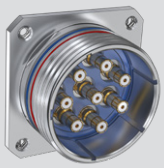
233-290-07
Jam Nut Receptacle



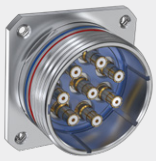
233-290-CS
Wall Mount Receptacle, Standard Clinch Nuts



233-290-CM
Wall Mount Receptacle, Metric Clinch Nuts



233-290-HS
Wall Mount Receptacle, Standard Helicoils

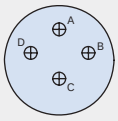


233-290-HM
Wall Mount Receptacle, Metric Helicoils

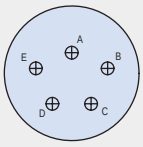
SHELL SIZE / CONTACT LAYOUT

11RF1
Shell Sz. 11 • 1 #8 contact

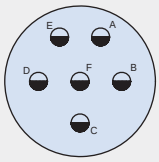
11RF2
Shell Sz. 11 • 2 #16 contacts



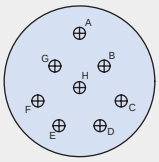
13RF4
Shell Sz. 13 • 4 #16 contacts



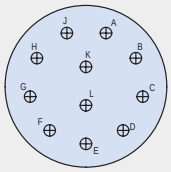
15RF5
Shell Sz. 15 • 5 #16 contacts



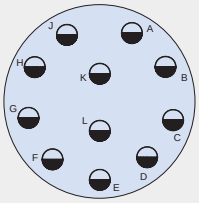
17RF6
Shell Sz. 17 • 6 #12 contacts



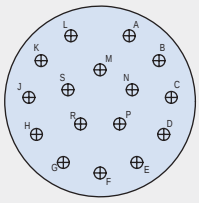
17RF8
Shell Sz. 17 • 8 #16 contacts



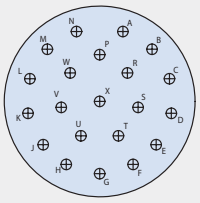
19RF11
Shell Sz. 19 • 11 #16 contacts



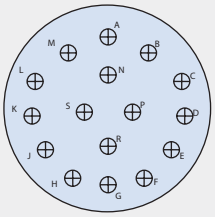
21RF11
Shell Size 21 • 11 #12 contacts



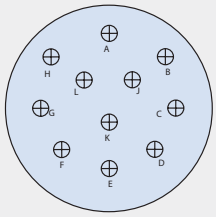
21RF16
Shell Size 21 • 16 #16 contacts



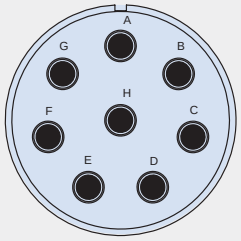
23RF21
Shell Size 21 • 21 #16 contacts



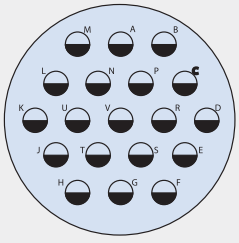
23RF97
Shell Size 23 • 16 #16 contacts



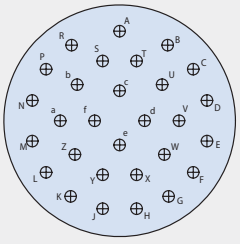
23RF99
Shell Size 23 • 11 #16 contacts



25RF8
Shell Size 25 • 8 #8 contacts



25RF19
Shell Size 25 • 19 #12 contacts



25RF29
Shell Size 25 • 29 #16 contacts

S T U V W X Y Z

OPTIMIZED
FOR USE WITH
MIL-STAR™
HIGH-PERFORMANCE HOOKUP WIRE AND CABLE

SuperNine®

Blind-mate, float-mount, and assisted release connectors with adjustable separation force and misalignment feature

Titan rocket launch from Vandenberg AFB
Photo courtesy 30th Space Wing

Available feed-thru configurations

Blind-mate, fixed, and float-mount interconnects for launch, satellite, and payload deployment applications

- **Available in most symmetrical MIL-STD-1560 and high-speed insert arrangements with contacts sizes from #23 to #8**
- **Select designs offered with user-configurable assisted separation force (ASF) feature**
- **NASA outgassing bake-out process available**
- **Designed to withstand the rigors of launch and flight—including shock, vibration, thermal vacuum, acceleration, and temperature extremes**
- **Crimp-removable contacts standard. PC tails, dual-flange standoffs, hermetically sealed, and custom blind-mate configurations available**

Glenair Series 253 blind-mate connectors with assisted separation force are used for interconnection and deployment of satellites, scientific payloads, interstage applications and more. This versatile family of highly engineered and environmentally sealed connectors is also appropriate for use in missile umbilical and weapons release.

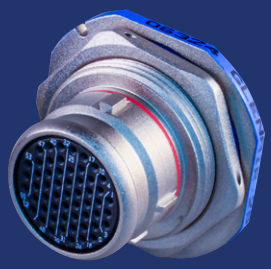
Dead-Face connectors for isolation and disconnection of electrical signals prior to connector separation.

SPACE-GRADE BLIND MATE

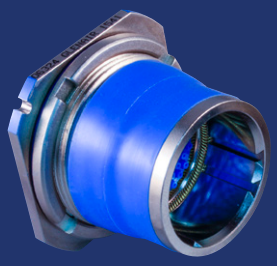
SuperNine Float-Mount and Adjustable Separation Force Connectors

IAW MIL-DTL-38999, environmental, crimp contact

CRITICAL MECHANICAL FEATURES OF BLIND-MATE AND ADJUSTABLE SEPARATION FORCE (ZEF) CONNECTORS

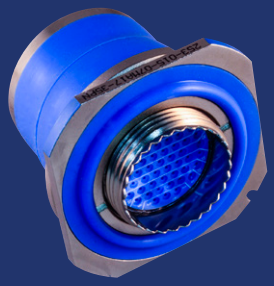


Roll-off nose: allows for the smooth disconnection of blind mate plugs and receptacles.

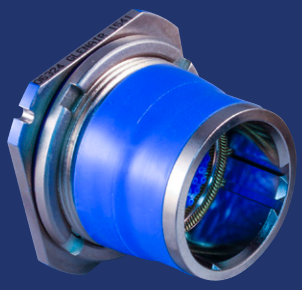


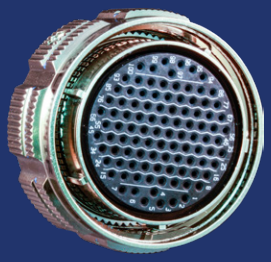
Float mounting: allows for coplanar movement of the receptacle during mating, preventing contact and shell damage.

Misalignment accommodation: Radial, axial, and angular misalignment during mating is accounted for with integral wave springs.

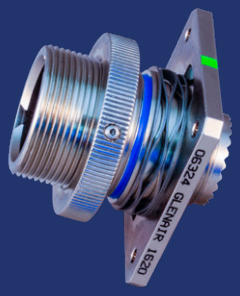


Sealing: Misalignment accommodation makes environmental sealing difficult. The problem is solved with auxiliary external seals.





EMI shielding: Glenair incorporates ground springs in receptacle connectors and grounding fingers in special coupling nut-equipped plugs to optimize 360° shell-to-shell continuity.



Assisted separation force: Adjustable kick-off style with spring-loaded posts and an adjustment ring to overcome contact retention (normal force).

BACKSHELLS AND ACCESSORIES FOR SUPERNINE BLIND-MATE CONNECTORS

ADAPTER CODE F

"F" adapter code accessories (D38999 Series I, imperial thread) fit this connnector

ADAPTER CODE H

"H" adapter code accessories (D38999 Series III, metric thread) fit this connnector

Glenair blind-mate, assisted separation force, and dead-face connectors may be equipped with protective covers, shield termination backshells, saddle clamps, and other front-end and back-end connector accessories with identical space-grade plating. Special "SplayMaster" backshells are supplied for use with high-speed data / RF series connectors. How-to-Order pages for each connector type indicate the appropriate adapter code to ensure correct accessory thread fit and function. "F" adapter code backshells are compatible with interconnects with MIL-DTL-38999 Series I and II imperial accessory threads. "H" adapter code backshells are compatible with MIL-DTL-38999 Series III and IV metric accessory threads. See Glenair Circular Connector Backshells and Accessories catalog for "F" and "H" order information.

S T U V W X Y Z

OPTIMIZED
FOR USE WITH
SpeedLine
High-Speed Protocol Cables

SuperSeal™ RJ45, USB, HDMI, and DisplayPort **field connectors**, cables, and accessories

Military-grade, ruggedized field connectors that deliver improved environmental sealing, EMI/RFI grounding, and a broader range of wire termination options for RJ45 and USB

All Glenair Signature ruggedized SuperSeal high-speed field connectors are available as turnkey cable jumpers and point-to-point cordsets.

- **Superior sealing—IP67 unmated—for complete system protection against water, sand, and dust**
- **Highly durable SuperSeal™ insert design, provides enhanced operating temperature, increased life-cycle, and rugged vibration and shock performance**
- **Factory-terminated, solder-cup, PC tail, and cable assemblies**

EMC SHIELDED

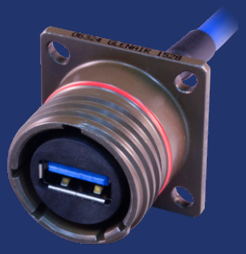
SuperSeal High-Speed Ruggedized Connectors and Cables

RJ45 · USB · HDMI · DisplayPort

SUPERSPEED USB 3.0 CONNECTOR STYLES

Cable plug

Wall mount receptacle with metric clinch nuts



Wall mount receptacle with slotted holes

Jam nut mount receptacle

SUPERSEAL TERMINATION OPTIONS

Solder Cup

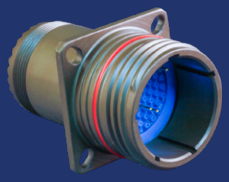
PC tail

Crimp Contact

Jack-to-Jack

EMI Filtered

Quadrax

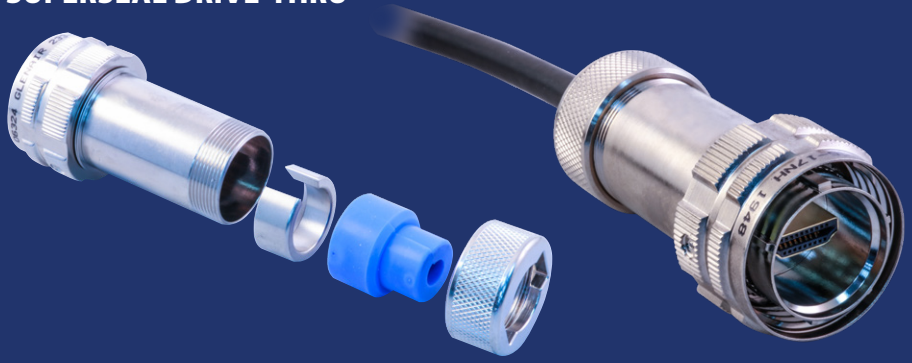


MIL-STD-1560 Arrangements

Turnkey Cordsets

High-Speed Protocols and Characteristics				
	Data Rate	Sealing	Distance (max.)	Operating Temperature*
USB 3.0 (Type A)	5 Gbps	IP67 unmated, IP68 mated.	10 ft	-40°C to +85°C
USB 3.2 Gen 2 (Type C)	10 Gbps		9 ft	-40°C to +85°C
DisplayPort 1.4	32.4 Gbps		6 ft *	-40°C to +85°C
HDMI 2.0	18 Gbps		20 ft*	-40°C to +85°C
RJ45 Cat 6A	10Gbps		328 ft	-40°C to +120°C
*Consult Glenair for longer length or higher-temperature requirements.				

SUPERSEAL DRIVE-THRU



- Converts commercially-available cabled USB, RJ45, and HDMI connectors into sealed D38999 type connectors
- Fast and easy assembly saves time and labor
- IP67 unmated / IP68 mated sealing

S T U V W X Y Z

A GLENAIR SIGNATURE

High-Rel Cable Assembly

CRITICAL COMPONENT

SWING ARM®

3-In-1 lightweight composite clamp with optional drop-in braid termination follower

Now available in stainless steel for rugged harsh environments including high temperature

Glenair's composite Swing-Arm® is a lightweight and corrosion-free cable clamp with cable shield termination options for a wide range of EWIS applications. This innovative articulating strain relief has become the standard shield termination device for weight reduction in both military and commercial airframe applications. Made from temperature-tolerant composite thermoplastic, rugged Swing-Arm® clamps offer easy installation, long-term performance, and outstanding weight and SKU reduction. Performance tested to stringent AS85049 mechanical and electrical standards and available for all commonly-specified mil-standard and commercial cylindrical connectors including MIL-DTL-38999, SuperNine, and Series 806 Mil-Aero.

SWING ARM®
COMPOSITE THREE-IN-ONE BACKSHELL
FLEX

User-configurable straight, 45°, and 90° cable routing

Introducing Swing-Arm FLEX®, Glenair Next-Generation Composite Swing-Arm® Strain Relief

- Significant weight reduction: no saddle bars or hardware
- Rapid assembly: cable self-centers on bundle, little or no wrapping tape required
- Braid sock and drop-in band termination follower versions for EMI/RFI applications
- Internal conductive ground path

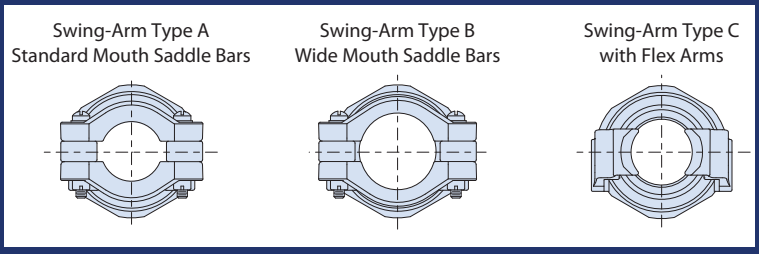
LIGHTWEIGHT

Swing-Arm Composite Strain Relief and EMI/RFI Shield Termination Adapter

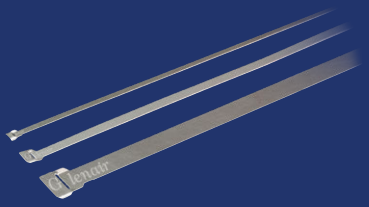
User-configurable straight, 45°, and 90°

THREE STYLES OF SWING-ARM STRAIN RELIEF CLAMPS

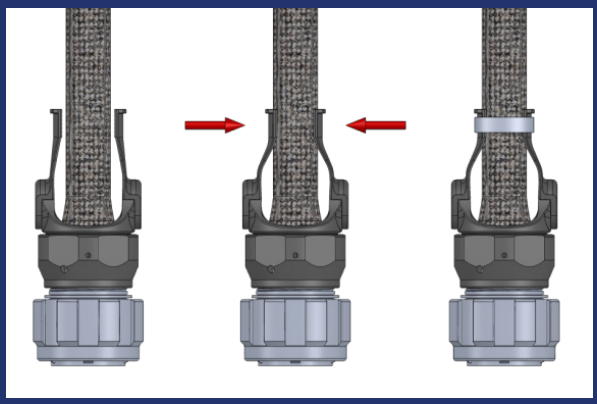
- **Style A - standard mouth, rigid saddle bars**
- **Style B - wide mouth (for larger cable diameters), rigid saddle bars**
- **Style C Swing-Arm FLEX - no saddle bars, self-centering round cable strain relief**



SWING-ARM VERSATILITY: FROM SIMPLE CABLE STRAIN RELIEF TO EMI/RFI SHIELD TERMINATION



Fast and reliable termination of individual wire and overall EMI cable shielding with industry-standard Band-Master ATS® tools and straps. New slim profile bands eliminate sharp strap cutoff for improved safety.



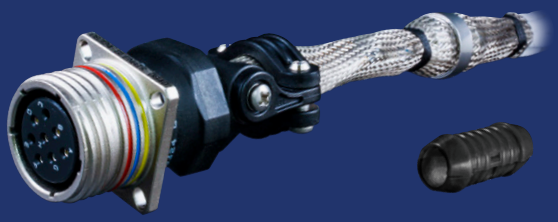
DROP-IN FOLLOWER FOR DIRECT TERMINATION OF OVERALL OR INDIVIDUAL WIRE SHIELDING

Two drop-in-follower designs, solid and slotted are available for all Swing-Arm styles (A, B, and C).

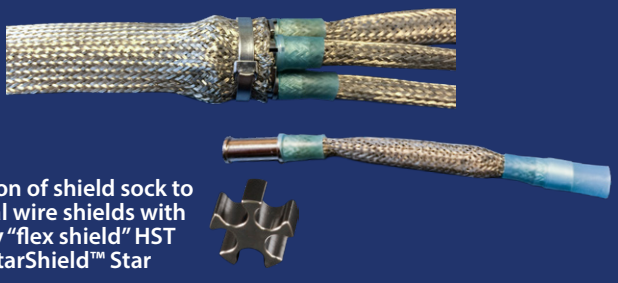
SWING-ARM AND SWING-ARM FLEX WITH OPTIONAL INTEGRATED SHIELD SOCK

For fast and reliable EMI/RFI shield termination of individual wire and overall cable shielding

SWING-ARM SHIELD SOCK TERMINATION OPTIONS: STANDARD SPLIT-RING OR STARSHIELD STAR



Termination of shield sock to cable shield with split support ring



Termination of shield sock to individual wire shields with auxiliary "flex shield" HST and StarShield™ Star

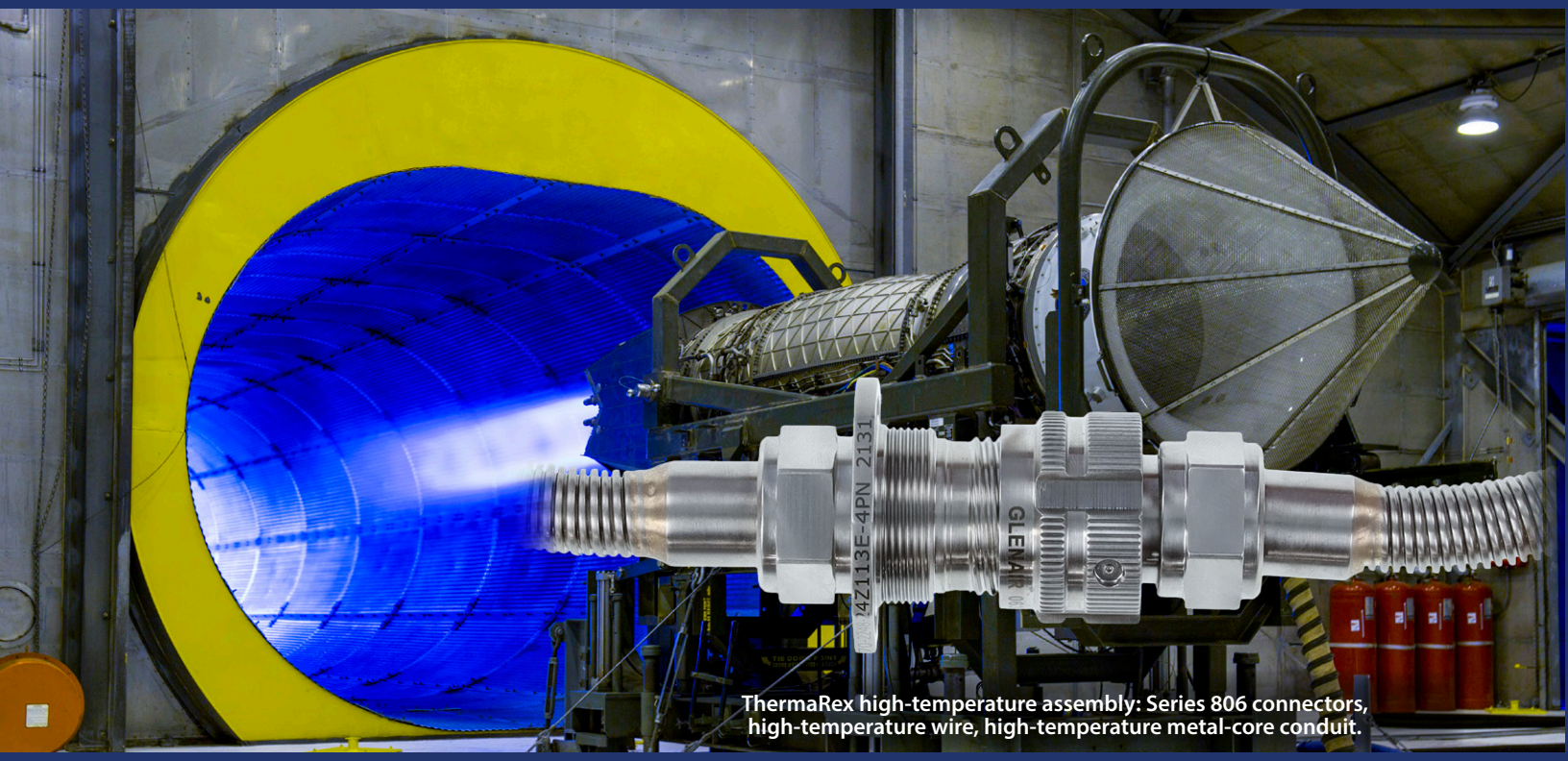
S T U V W X Y Z

OPTIMIZED
FOR USE WITH
MIL-STAR™
HIGH-PERFORMANCE HOOKUP WIRE AND CABLE

ThermaRex™

CRYOGENIC • HIGH-TEMPERATURE

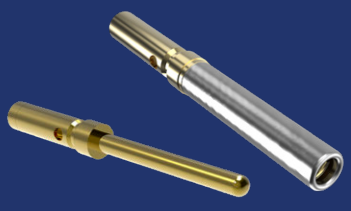
Cryogenic and high-temperature tolerant connectors, cables, and conduit systems



ThermaRex high-temperature assembly: Series 806 connectors, high-temperature wire, high-temperature metal-core conduit.

Sensor devices in aerospace engine applications are increasingly exposed to higher temperature operating environments. Rugged sensors in FADEC equipment–an extreme high temperature environment–are also exposed to temperature extremes well beyond the capabilities of conventional interconnect devices. Glenair ThermaRex interconnect solutions are designed to survive and excel in high continuous operating temperature application environments up to 300°C.

HIGH-TEMPERATURE TOLERANT CROWN RING CONTACTS: THERMAREX™ HT SERIES



Glenair Signature Crown Ring contact series

provides reduced contact resistance, superior conductivity, and higher temperature tolerance than conventional AS39029 contacts.

- Superior conductivity performance compared to beryllium copper contacts, across full temperature range
- Up to 60% lower contact resistance than AS39029 contacts (normalized, less wire)
- Contact bodies made from high-temperature and stress-relaxation-resisting non-Beryllium Copper material
- Stainless steel Crown Ring
  - Provides socket forces without stress relaxation at high temperatures
  - Moves socket spring function from socket body to ring, allowing use of high-conductivity copper
- Gold over nickel plating
  - Thicker plating than industry standards for reduced contact fretting and higher temperature endurance
  - Gold over nickel is "gold standard" for high-reliability aerospace contacts
- Crimp versions use standard industry tooling, including crimp die/locator and insertion/extraction tools (2AWG Crown Ring contacts require custom tooling)

TEMPERATURE-TOLERANT

ThermaRex Interconnect Solutions

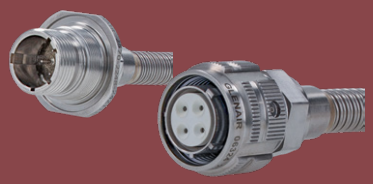
High-Temperature · Cryogenic

The ThermaRex product family includes connectors, cables, and wire protection conduit systems organized into two temperature ranges: ThermaRex HT (high-temperature) and ThermaRex Cryo.

300°C ThermaRex HT Connector

- Service rating up to 300°C
- Vibration-resistant threaded coupling
- High-temperature ceramic insulators and silicone seals
- Durable stainless steel construction
- Available in Series 806, SuperNine®, or Series 79 rectangular
- Utilizes Glenair Crown Ring contacts

600°C ThermaRex UHT Connector (in development, consult factory)



- 300°C to 600°C service range
- Vibration-resistant threaded coupling
- Specialized contacts, laser welds, and metal seals
- Utilizes ultra-high temperature flexible ceramic-insulated cable
- Ideal for nuclear and other extreme temperature applications

-195°C ThermaRex CRYO Environmental and Hermetic Connectors

Environmental

Hermetic

- Environmental-class service rating down to -195°C
- Vibe and shock at D38999 level, immersed in LN2
- Cryogenic temperature-resistant Duralectric K grommet and interfacial seals
- Cold temperature-resistant thermoplastic dielectric insulator
- Hermetic-class service rating -195°C to +200°C
- Series 806 micro-miniature high-density packaging
- Corrosion-resistant stainless steel shell construction
- Glass-to-metal hermetic seal leak rate <1 X 10^{-7} cc He / sec @ 1 ATM

Complementary ThermaRex Ecosystem Technologies

High- and low-temperature hookup wire and shielded twisted pair

High-temperature polymer-core wire protection conduit

Flexible stainless steel metal-core jacketed conduit

Three classes of HT and UHT flexible braided shielding

T U V W X Y Z

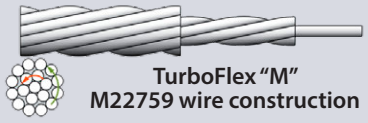
turboflex®

THE ULTRA FLEXIBLE RUGGED POWER CABLE

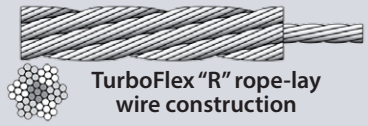
TurboFlex is an ultra-flexible and rugged power cable solution–ideal for high-voltage electrical distribution and propulsion applications such as battery plant-to-inverter-to-electric motor cables for eVTOL aircraft. Constructed from rope-lay configuration copper or aluminum wire and jacketed with Glenair signature Duralectric insulation, TurboFlex cables are optimized for use in an ecosystem of Glenair signature contact and connector technologies. Turnkey connectorized or lugged cable assemblies – fully tested and ready for immediate use – provide reliable high-temperature tolerant performance up to 4500 VAC.

Duralectric™ is the high-performance TurboFlex® jacketing material. Different compounding formulas are optimized for weight savings, radiation resistance, ultra low temperatures, conductivity, and immersion in chemical or caustic fuels. Available in a broad range of colors including safety orange.

STANDARD TURBOFLEX "R" VS. TURBOFLEX "M"

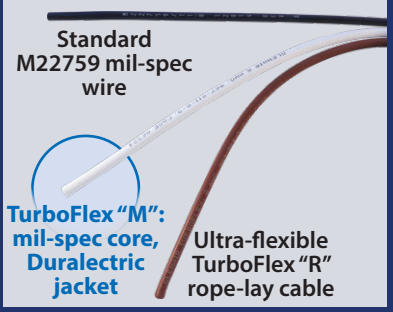


TurboFlex "M" M22759 wire construction



TurboFlex "R" rope-lay wire construction

TurboFlex cables are jacketed with Duralectric insulation, which contributes significantly to the flexibility of the product. Available wire cores include rope-lay (TurboFlex "R") for maximum flexibility, and M22759 wire (TurboFlex "M") with the flight-heritage of a mil-spec core and a slightly larger bend radius, but far superior flexibility compared to standard M22759 wire.



ULTRA-FLEXIBLE

TurboFlex Rugged Power Cable

Rope-lay · stranded-core · copper or aluminum conductor

ULTRA-FLEXIBLE ROPE-LAY AND STRANDED-CORE POWER CABLE FOR HIGH-POWER ELECTRICAL INTERCONNECT APPLICATIONS

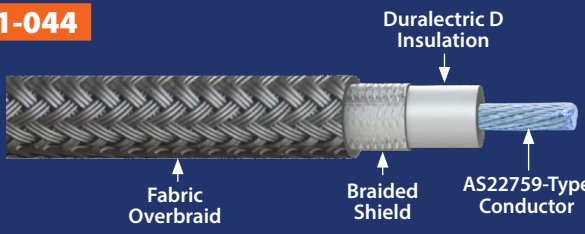
961-004

TurboFlex® "R" Copper Core, Duralectric™ D Insulation, 2000 VAC

967-600

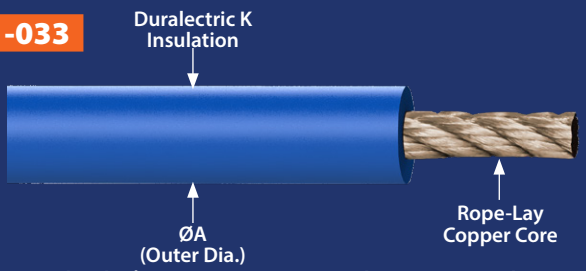
TurboFlex® "M" AS22759-type conductor, Duralectric™ D Insulation, 725–2875 VAC

961-044



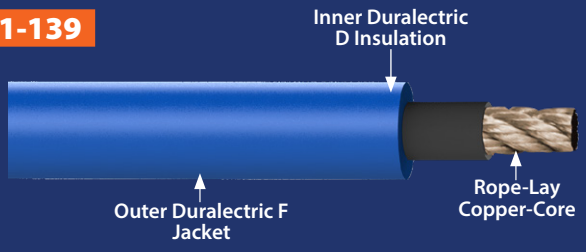
TurboFlex® "M" Copper Core, Duralectric™ D Insulation, Metallic Braided Shield, Fabric Overbraid 725–2875 VAC

961-033



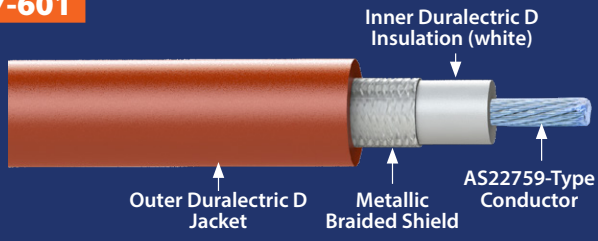
TurboFlex® "R" Copper Core, Duralectric™ K Insulation, 1000–3000 VAC, -110°C – +200°C

961-139



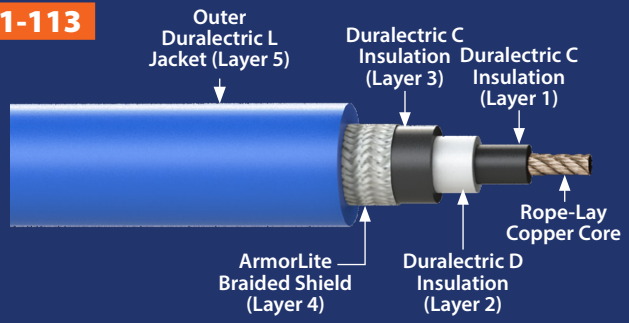
TurboFlex® "R" Copper Core, Dual-layer Duralectric™ D Insulation/ Duralectric F Jacket, 1000 VAC

967-601



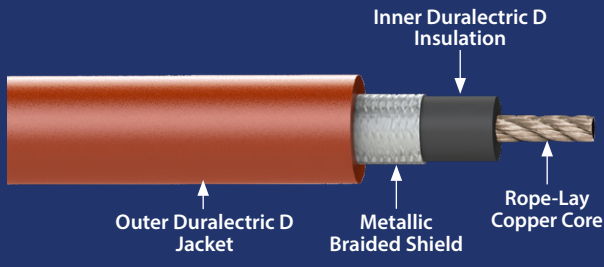
TurboFlex® "M" Copper Core, Dual-Layer Duralectric™ D Jackets and Metallic Braided Shield, 725–2875 VAC

961-113



TurboFlex® "R" Copper, Triple-Layer Duralectric™ D/C (HPHV) Insulation, ArmorLite Shield, and Duralectric™ L Jacket

961-007



TurboFlex® "R" Copper Core, Dual-Layer Duralectric™ D Jackets and Metallic Braided Shield, 3000 VAC

T U V W X Y Z

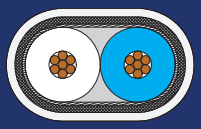
OPTIMIZED
FOR USE WITH
SpeedLine™
High-Speed Protocol Cables

VersaLink™

VersaLink High-Speed Twinax **"Zero Crosstalk"** contact, cable, and connector technology

VersaLink Micro-D turnkey prewired assemblies

Innovative differential twinax crimp contacts with highest available bandwidth—up to 28 Gbps each—in rugged mil-aero circular and rectangular connector packaging. Hybrid insert arrangements support both standard signal as well as high-speed differential data.



VersaLink pin and socket crimp contacts sold separately. Save assembly time and labor with pre-wired, 100% tested VersaLink single-ended pigtails and cable assemblies, built with 963-069-26 SpeedLine flat-pair shielded cable, supplied with cable grommet follower if applicable.

- **Shielded differential data-pair solution for Ethernet, USB, SATA, PCIe, DisplayPort, and HDMI protocols**
- **Higher speed and density than standard mil-spec style twinax designs—up to 28 Gbps**
- **Aggressively shielded pairs result in virtually zero crosstalk**
- **Hybrid contact layouts with standard signal pins**
- **Optimized for use with Glenair SpeedLine™ 100 Ohm flat pair shielded cable**

UP TO 28 Gbps

VersaLink™ High-Speed Interconnects

The higher-speed, higher-density Twinax solution

VersaLink Contact Technology

VersaLink Twinax contact technology supports high-speed serial data protocols including USB 3.1 Gen2, USB-C, SATA, PCIe, DisplayPort, and HDMI. Crimp-contact twinax modules are sold separately for ready packaging in Glenair signature circular and rectangular connectors.

Series 806 VersaLink Connectors

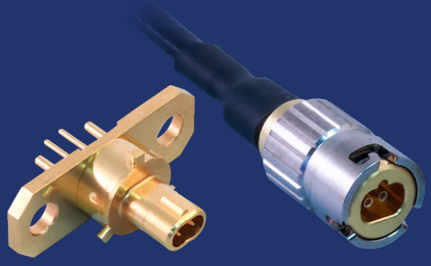
Glenair Signature Series 806 Mil-Aero connectors with VersaLink contacts feature advanced electrical, mechanical and environmental performance plus reduced size and weight compared to D38999. Rapid-advance ratcheted coupling optimizes fast and reliable mating and demating. Available insert arrangements from one to 32 VersaLink modules.

Series 794 VersaLink Connectors

The 794 rectangular series is designed for avionics and other high-data rate aerospace applications that require optimal contact and connector density. Dual-lobe scoop-proof shells prevent mating damage and optional polarizing keys prevent mis-mating issues. Rugged environmental design with robust EMC performance, ideal for blind-mate applications. Available insert arrangements from one to 36 VersaLink modules.

Micro-D VersaLink Connectors

Ultra miniature Micro-D connectors with High-Speed VersaLink contacts offer the industry's highest speed and density compared to conventional mil-spec style twinax solutions. Hybrid arrangements with VersaLink contact modules and standard Micro-D contacts available for signal and power applications. Series is intermountable with standard Micro-D panel cutout dimensions. Available insert arrangements from one to ten VersaLink modules.



VersaLink Bridge Board Level Connectors

The Glenair VersaLink Bridge is a high-density, micro-form factor twinax connector / jumper assembly used to bridge the gap between point A and point B on the board with better signal integrity than native board traces. VersaLink Bridge is equally capable at reducing insertion loss and signal latencies for data traffic between an ASIC and the I/O.

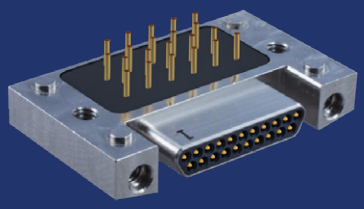
OPTIMIZED
FOR USE WITH
MIL•STAR™
HIGH-PERFORMANCE HOOKUP WIRE AND CABLE

260® Well-Master

Well-Master: the Micro-D connector for high-temperature downhole applications

Standard Micro-D connectors are rated for +125°C. Glenair's MWDM Micro-D can withstand +150°C continuous operating temperature and can be upgraded to +200°C if assembled with special high temperature epoxies. But oil, gas, and geothermal wells can subject electronic instruments to temperatures as high as +260°C. The GHTM Series Micro-D meets the need for a high density, high performance connector capable of handling this temperature. The GHTM features contacts made from a special alloy that resists softening when exposed to temperatures up to +260°C (500° F). Rugged passivated stainless steel shells and hardware, high temperature liquid crystal polymer (LCP) insulators allow these connectors to survive the most demanding environments. Unique angled mounting ears allow the Well-Master™ 260° to fit in confined spaces.

- **+260°C operating temperature**
- **Angled mounting ears to fit in small diameter instruments**
- **High reliability TwistPin contact system with special high temperature alloy**
- **.050" Pitch contact spacing for reduced size**
- **Solder cup, pre-wired or PCB**



PCB Header

Pre-Wired Cable Receptacle

Pre-Wired Cable Plug

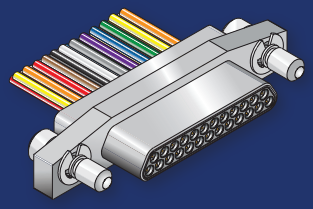
SERIES GHTM

Well-Master Downhole Micro-D Connectors

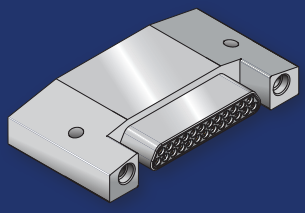
260°C operating temperature

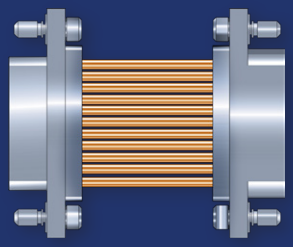
In addition to extreme high temperature tolerance, and demating resistance to vibration and shock, the Glenair Well-Master™ 260° Micro-D connector features unique shell packaging designed to conform with the cylindrical shape of instrument housings. Special angled mounting ears facilitate incorporation of the connector into available space, and the Micro-D's overall reduced size compared to other rectangular connector solutions allows for more efficient utilization.

High Temperature Micro-D with insulated Wire Pigtails



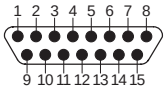
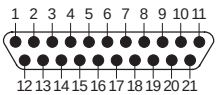
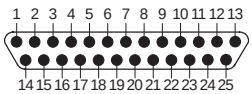
High Temperature PCB Header

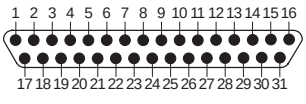
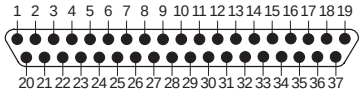
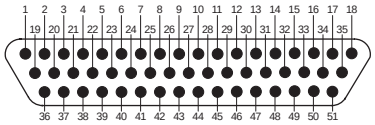




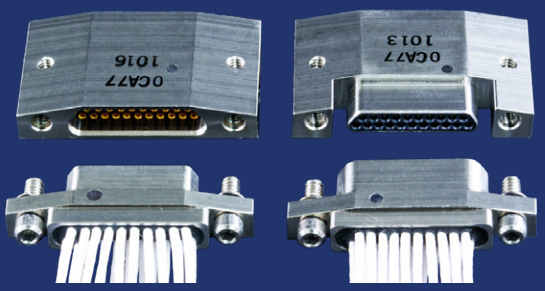
High Temperature Back-to-Back Micro-D

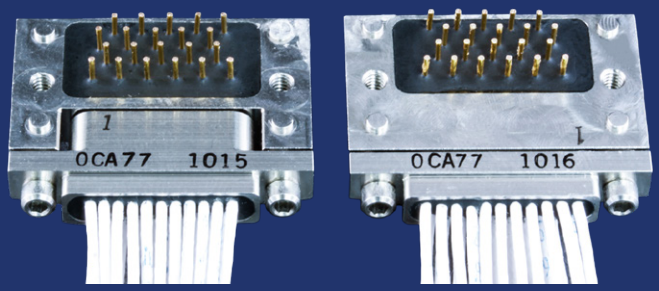
GHTM HIGH TEMPERATURE INSERT ARRANGEMENTS (PIN FACE VIEW)

9	15	21	25
			

31	37	51
		

Mating face of pin connector. Socket connector contact numbers are reversed.





W
X
Y
Z

MISSION-CRITICAL

INTERCONNECT SOLUTIONS

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