





# Elite Motorsport Interconnect Solutions

with Aerospace-Grade Quality, Safety, and Reliability



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### TURNKEY, INTEGRATED WIRE, CONDUIT, JUNCTION BOX, AND FLEX ASSEMBLIES



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



In-house coil-cord capability: audio communications



Hybrid high-speed, RF, and digital signal integrated flex assembly with Glenair Micro-D

### **WEIGHT-SAVING, HIGH-DENSITY MICRO MINIATURE CONNECTORS**



**Mighty Mouse series** high-density micro miniature



Series 79 high-density and high-speed rack and panel



SuperFly Datalink 10Gb Ethernet



SpliceSaver™ time- and laborsaving wire splice replacement

### WEIGHT-SAVING, MICRO MINIATURE HARSH ENVIRONMENTAL CONNECTORS



Micro-PSI hermetic micro miniature



CODE RED™ lightweight hermetic

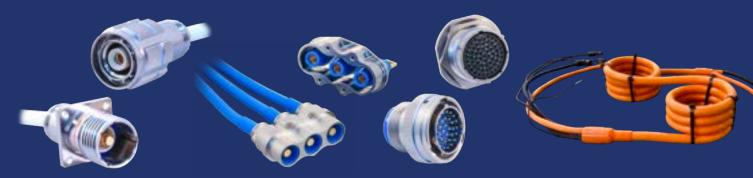


ThermaRex™ HT high-temperature connector



Series 86 SealTac™ spring-pin push-pull connectors

### **ELECTRICAL POWER DISTRIBUTION SOLUTIONS**



**Bayonet-lock** 

power and signal solutions

MotorHead low-profile electric

motor power interconnect





Super-DCSP™ **Dummy Contact Sealing Plugs** 

PowerPlay™ D38999 type high-voltage, high-vibration



Lightweight, flexible ground straps and HSTs



MasterWrap™ side-entry shielding

and wire protection

TurboFlex® ultra-flexible

power cables



GroundControl™ earth bond / ground stud installation system



# 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, motorsport, and rail. In addition to world-class quality, we are laser-focused on industryleading 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"



Abundant engineering and technical support

No attitudinal constraints when it comes to customer convenience

No MOQ on any product



### **ABOUT GLENAIR**

### Mission-Critical Interconnect Solutions



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







TURNKEY ELITE MOTORSPORT WIRE AND CABLE INTERCONNECT **ASSEMBLIES** 



**Aerospace-Grade Wire** Harnesses and Complex Multibranch Cable Assemblies **Built with Glenair Signature** Wire and Multiconductor Cable



Glenair is laser-focused on supplying our elite motorsport customers with aerospace-grade, high-reliability,

harsh-environment interconnect assemblies built from Glenair MIL-STAR<sup>™</sup>, SuperFlex<sup>™</sup>, BluMark RF™, SpeedLine<sup>™</sup>, and TurboFlex® 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 analog, digital, RF, and power applications.

### **FAST DELIVERY AND QUALITY SINCE 1956**

- 3.5 million square feet factory capacity
- Mission-critical, high-performance interconnect product
- 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 customeraudited

### AEROSPACE-GRADE

G lenair. Wire harnesses and interconnect assemblies: built in-house with 100% Glenair wire, cable, contacts, and connectors

**BULK WIRE AND CABLE AND TURNKEY INTEGRATED ASSEMBLIES:** HIGH-SPEED, HIGH-FREQUENCY, HIGH-POWER • ELECTRICAL, OPTICAL, RF, AND FLEX

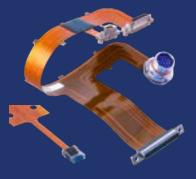








MIL-STAR™ MS22759 and MS27500 type bulk hookup wire and multi-conductor cable: turnkey, splice-free interconnect assemblies with Glenair-made aerospace-grade connectors



SuperFlex™ integrated PCB flex, rigid flex, and optical flex assemblies. 100% vertically-integrated capability: from napkin sketch to fast-turnaround prototypes and volume production. Shielded and long-length assemblies are our specialty



**SpeedLine™** high-speed protocol datalink wire, cable, and integrated assemblies for sensors, video and voice communications, dashboard interconnections, and other highspeed data acquisition and distribution requirements

### BLUMARK RF







BluMark RF™ high-frequency, low-loss coax cables and assemblies for telemetry systems, antennas, onboard video systems, and other highfrequency RF requirements.



**FiberKing™** harsh-environment and inside-the-box simplex and multiples optical assemblies for hybrid powertrain and battery monitoring, data acquisition, onboard camera, and other requirements.



**TurboFlex**\* high power, high flexibility power cables and assemblies. RoHS-compliant power distribution solution for electric motor applications.

# 

### **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 harsh 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, harsh-environment discrete wire and cable specification unique to Glenair. The brand covers both protected (inside-the-box) hookup wire, high-durability open-loom wiring, and multiconductor shielded and jacketed M27500-type cable.

M22759 single-ended hook-up wires are the industry standard for insidethe-box environments and are optimized for size, weight, hightemperature 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.

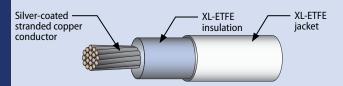
### MIL-STAR™ 22759 OPEN WIRE LOOM AND (PROTECTED) HOOKUP WIRES

AS22759 high-temp single-conductor 600V military and aerospace-grade wire, standard and crosslinked, lightweight single-wall and rugged dual-wall configurations. 967-047 constructions are ideally suited for the performance demands of the Motorsport industry.

### **CROSSLINKED (XL) ETFE SAMPLES**

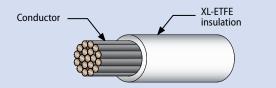
### GS22759-43-22-9

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



### 967-047-24

Silver, nickel, or tin and copper core, std. weight single wall lightweight XL-ETFE insulation/jacket; rated 450V.



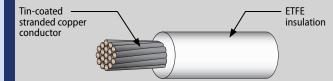
### **GS22759-45-12-9** (Light weight)

Nickel coated copper core with XL-ETFE insulation. High-temp (200°C), fire and chemical resistant.



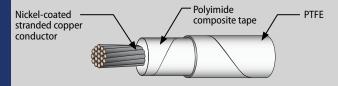
### CONVENTIONAL FLUOROPOLYMER SAMPLES GS22759-16-8-9

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



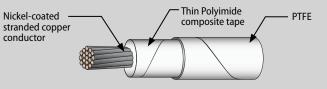
### **GS22759-87-20-9** (Standard weight)

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



### GS22759-92-20-9 (Light weight)

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



### MIL-STAR™

# Hookup Wire for Aerospace-Grade Harness Assemblies



Harsh-environmental performance · Full batch testing and documentation

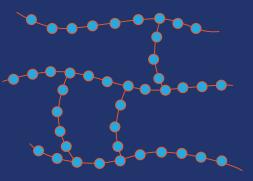
MIL-STAR™ Order Number	Conductor	Plating	Insulation	Insulation Weight	Available Wire Sizes	Temperature Rating
		SA	E AS22759/16-19	, ETFE		
GS22759-16	Copper	Tin	ETFE	Medium	24, 22, 20, 18, 16, 14, 12, 10, 8	150°C
GS22759-17	High-Strength Copper Alloy	Silver	ETFE	Medium	26, 24, 22, 20	150°C
GS22759-18	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, X	(L-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	AS22759/41-46, X	KL-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

### **CROSS-LINKED ETFE INSULATION FOR IMPROVED MECHANICAL STRENGTH**

Cross-linked insulation (XL) and standard insulation are two types of dielectric materials used in wire and cable manufacturing. Cross-linking is the preferred construction for harsh-environmental applications. Glenair's vertically-integrated wire and cable factory houses full electron beam process capabilities, providing the following advantages:

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

The cross-linking process in ETFE wire insulation bonds polymer chains, enhancing thermal, chemical, and mechanical resistance

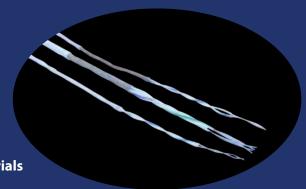


# 

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

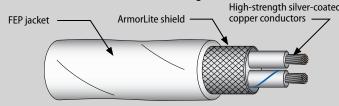


### **MIL-STAR™ 27500 MULTI-CONDUCTOR CABLES**

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.

### 968-001-24SC2AR09

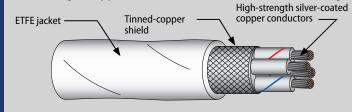
27500 type with ArmorLite or AmberStrand lightweight microfilament braided shielding



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.

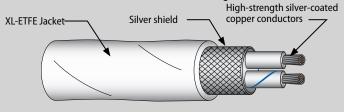
### GS27500-22TF4T14

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



### 968-070-22A 4T14

27500 type with 967-047 wire (silver-plated copper wire, XL-ETFE insulation), and silver 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.

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).

Multi-conductor M27500 type IAW ANSI/NEMA WC 27500

MIL-STAR Cable Sample Part Number GS27500 - 22 TE 2 T 14

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

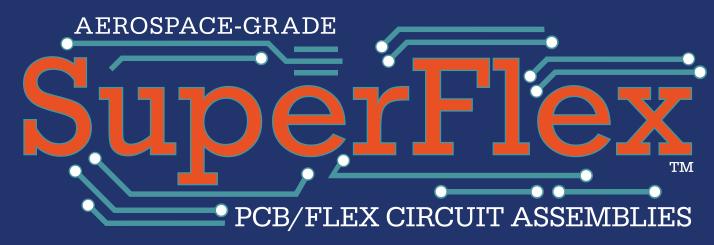
### LIGHTWEIGHT MIL-STAR SHIELDING OPTIONS

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

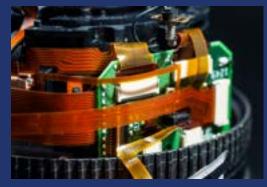
MIL-STAR GS27500 Shielding Options			
Single Shield Code	Double Shield Code	Shield Description	
AM	AS	AmberStrand®, Round	
AR	AL	ArmorLite™, Round	
AC	AF	ArmorLite™ CF, Round	
U	U	Unshielded	







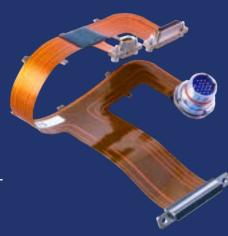
Turnkey connectorized flex, rigid flex, and rigid PCB assemblies incorporating Glenair's broad range of innovative small form-factor circular and rectangular PC-tail connector solutions for optimized ease-of-assembly and SWaP



Flex circuits—metallic layers of traces, usually copper, bonded to a dielectric layer, like polyimide—are used to interconnect embedded electronic packages, displays, backplanes, and other PCB components. Flex and rigid-flex circuits are frequently 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. Flex and rigid-flex circuits are commonly deployed within electronic control units and other complex electronic systems.

Compared with conventional wiring, compact flexible printed circuit assemblies reduce system complexity and assembly time as well as enhance reliability. Due to their low mass and high circuit density, flex circuit assemblies are less susceptible to impact and vibration damage than conventional wire harness assemblies, making them an ideal choice in high vibration and shock applications.

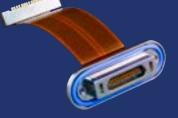




IPC 6012/6013 Class I, II, III, Types 1-4 Certified Production

Glenair recommends elite motorsport customers specify IPC-6012/6013 standards of workmanship, which are fully supported by Glenair

### 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, rigid flex, and rigid PCB assemblies begin with our signature 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 12 feet.



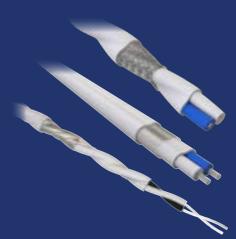
### **MULTIBRANCH SUPERFLEX ASSEMBLIES WITH GLENAIR SIGNATURE CONNECTORS**



# ed-Ine High-Speed Protocol Cables

Glenair supplies a wide range of high-speed shielded twisted pair cabling for use with El Ochito<sup>®</sup>, VersaLink<sup>™</sup>, SpeedMaster<sup>™</sup>, 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
- Fluid 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









SpeedLine™ high-speed protocol cables: shielded differential data-pair cables for standard Automotive Ethernet as well as high-datarate 10Gb Ethernet, HDMI, USB, CANBUS, PCIe, LVDS, and proprietary motorsport protocols



SpeedLine cables are selected for protocol compliance in accordance with industry standards for Ethernet, USB, HDMI, LVDS, 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

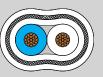
### 963-066 -24, -26, and -28

- 100 Ohm twisted pair shielded cable
- -65 to +200 °C
- FEP jacket, FEP insulation
- Dual shields: aluminized polyimide tape and #40 AWG silver-plated copper braid



### 963-073 -24, -26, 28, and -30

- 100 Ohm twisted pair shielded cable
- -65 to +200 °C
- FEP jacket, FEP insulation
- Silver-plated alloy conductors



### 963-077-26

- 90 Ohm twisted pair shielded cable
- -65 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
- PFA jacket, PFA insulation
- Dual shields: aluminized polyimide tape and silver-plated copper braid



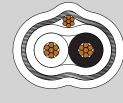
### 963-072-24

- 100 Ohm twisted pair shielded cable
- -65 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 GHSM connectors
- Performance up to 10 GHz
- -65 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 to +200 °C
- FEP jacket, FEP insulation
- Dual shields: aluminized polyimide tape and #44 AWG silver-plated copper braid



### 963-068-26

- 100 Ohm #26 AWG twisted pair shielded cable for use with VersaLink™ connectors
- Performance up to 10 GHz
- -65 to +200 °C
- FEP jacket, FEP insulation
- Dual shields: aluminized polyimide tape and silver-plated copper braid

### 963-080 -24 and -26

- 100 Ohm twisted pair shielded cable
- Performance up to 8 GHz
- -65 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 10 GHz
- -65 to +200 °C
- FEP jacket, FEP insulation
- Dual shields: polyimide and silver-plated copper braid









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

### RF highfrequency, low-loss cables

BluMark

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 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.

temperature tolerance, and altitude.

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 hand-formable RF cable assemblies with industry-standard single-line RF connectors, as well as aerospace-grade environmental

RF cable assemblies built with BluMark RF low-loss cable and Glenair signature high-frequency connectors for rugged multi-port shell configurations.



### BLUMARK RF

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



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

### RF and Microwave Transmission 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 seven 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.

### 962-032-200



50 ohm size 200 (.204" diameter, .051" conductor) 26.5 GHz max. frequency low-attenuation cable

-55 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 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 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

### 962-025-086



50 ohm size 086 (.104" diameter, .020" conductor) 40 GHz max. frequency low-attenuation cable

-65 to +165 °C rated operating temperature

FEP jacket, LPCF 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 to +165 °C rated operating temperature

FEP jacket, LPCF dielectric, solid SPC center conductor Double-shielded: Tape/braid shield layers

### BLUMARK RE

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, tapewrapped insulation, and harshenvironment Duralectric jacketing. It is ideally suited for applications that need a flexible coax cable that does not workharden with use.

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

Typical Attenuation (dB/ft)

# FIBER OPTIC CABLES



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, hightemp, water-blocking) oil & gas industry fiber optic cable assemblies
- Ruggedized fiber optic ribbon cable for multifiber 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.





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









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



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

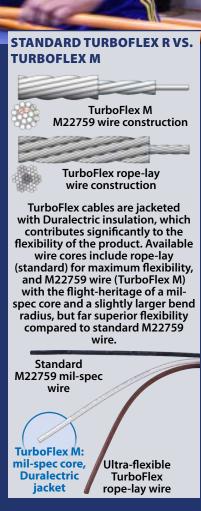




TurboFlex is an ultra-flexible and rugged power cable solution—ideal for high-voltage electrical distribution and propulsion applications such as battery plant-to-inverter-to-electric motor cables for electric vehicles. Constructed from rope-lay configuration copper or aluminum wire and jacketed with 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.

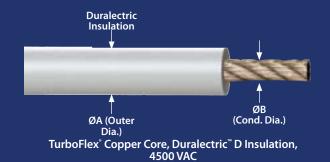


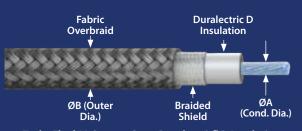
# TurboFlex Rugged Power Cable



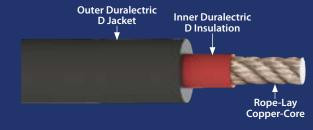
Rope-lay · stranded-core · copper or aluminum conductor

# ULTRA-FLEXIBLE ROPE-LAY AND STRANDED-CORE POWER CABLE FOR HIGH-VOLTAGE ELECTRICAL INTERCONNECT APPLICATIONS

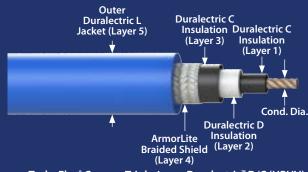








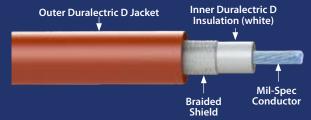
TurboFlex® Copper Core, Dual-layer Duralectric® D Insulation/Jacket, 3000 VAC



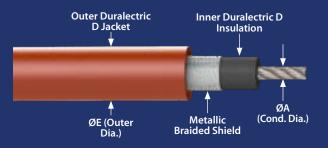
TurboFlex Copper, Triple-Layer Duralectric D/C (HPHV)
Insulation, ArmorLite Shield, and Duralectric LJacket



(Outer Dia.) TurboFlex\* Copper Core, Duralectric™ K Insulation, 1000–3000 VAC, -110°C – +200°C



TurboFlex® M Copper Core, Dual-Layer Duralectric™ D Jackets and Metallic Braided Shield, 725–2875 VAC



TurboFlex® Aluminum Core, Dual-Layer Duralectric™ D Jackets and Metallic Braided Shield, 3000 VAC





Mighty Mouse Micro Miniature Connector Series for Optimized SWaP



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





### **SERIES 80 MICRO MINIATURE**

### 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



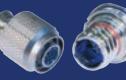
Series 803 bayonet coupling



quick-disconnect



Series 824 locking quick-disconnect



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 ightweight hermetic



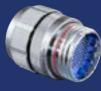
EMI/RFI Filter



EMP Transient Voltage Suppression



Bulkhead feed-thrus and



Sav-Con® connector savers



High-frequency RF / Microwave



High-speed Ethernet



Single- and multimode fiber optic

### **AVAILABLE NEXT-GENERATION MIGHTY MOUSE CONNECTORS AND ACCESSORIES**



Low-profile COBRA



MouseBite spring-contact series with thumb lock



New 7-pin 10 Amp USB-C power / signal design



receptacle connector nut plates





Precision-Machined
Micro-Miniature Rectangular
Connector for Demanding
High-Density Applications



Originally designed for NASA's Orion project, the 791's small size and blind mate capability make it a perfect choice for high-density electronic modules. Rectangular form-factor, scoop-proof pin protection, EMI/RFI shielding, precision machining, shell polarization, integrated backshell

and other advanced features make the 791 ideally-suited for the most demanding I/O-to-control box applications.

Polarized / keyed shells prevent mis-mating and allow designers to specify identical layouts side-by-side without risk of circuit damage

- Next-generation small form factor aerospacegrade rectangular connector
- Scoop-proof recessed pin crimp contacts
- 37 high-density power and signal arrangements;
   12 shell sizes; size 23, 16,
   12 and 8 contacts
- Environmentally-sealed
- EMI shielded
- Guide pins for blind-mate modules

Prevent mis-mating with Mod Code 555 special keying option

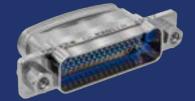
### SERIES 791 NEXT-GEN

### Micro Miniature Crimp-Contact Rectangular



For demanding I/O-to-board applications

### FEATURES OF SERIES 791 COMPARED TO MICRO AND D-SUBMINIATURE CONNECTORS



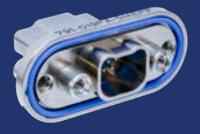
Higher-density crimp-contact insert arrangements



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

### **SERIES 793 DUAL-BAY RACK-AND-PANEL**



Series 793 is a high reliability aerospace-grade rectangular connector with two inserts for up to 204 contacts. Intended for vehicular and avionics equipment, the 793 saves size and weight compared to legacy rack-and-panel types. The tight-tolerance duolobe shell assures accurate alignment. Pin contacts are recessed to prevent damage.

- 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





The Next-Generation Micro Miniature Rectangular Connector with El Ochito **Contacts for High-Speed Protocol Applications** 



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 sensors, communication voice and video, dashboard interconnects, telemetry, electronic control units, and more.

### **HIGH-SPEED PROTOCOL CAPABILITY:**

- 10GBase-T
- 40GBase-T
- HDMI 2.0
- DisplayPort 1.4

- DVI Single / Dual
- eSATA / SATA 3.0

USB 3.2 Gen 1x1

SpaceWire

- **High-speed Ethernet, USB** 3.0, HDMI, and LVDS
- PCB-mount and cable connectors
- **Scoop-proof interface**
- 12 arrangements, 6 shell sizes, from 1 to 9 way
- Precision-machined duallobe polarized shells
- **Environmentally sealed**
- Integrated EMI shielding and grounding
- **Blind mating**

### SERIES 792

### High-Speed Micro-Crimp Contact Rectangular



Aerospace-grade

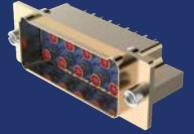
DESCRIPTION	REQUIREMENT	PROCEDURE / NOTES
Operating temperature	-65° to +175°C	EIA-364-32 Test Condition IV
Current rating	1.5 Amps (datalink contacts) 5 Amps (Size #23 contacts)	Datalink contacts tested: El Ochito® White
DWV (sea level)	750 VAC (Size #23 contacts) 1000 VAC (datalink contacts)	EIA-364-20
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



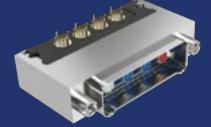
Twinax, Quadrax and El Ochito Connectors are available in three configurations: twinax for a single

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



### **Panel Mount**

Panel mount connectors have O-ring and threaded mounting holes for easy installation and are available with guide pins and float mounts.

El Ochito® octaxial contacts are intended for harsh environment data networks, and provide up to 50% total weight savings and 20 times faster data rates compared to legacy quadrax-based solutions.



### **Cable Connectors**

High-speed shielded contacts snap into Series 792 cable connectors and are easily removed with a standard plastic tool.



### El Ochito<sup>®</sup> Contacts and Jumpers

El Ochito® octaxial contacts and jumpers supplied for Ethernet, SuperSpeed USB, HDMI, LVDS, SATA and other multi-gigabit protocols.

El Ochito® White

GbE 10GbE 40GbE USB 3.0

HDMI, SATA,

Snap-in, rear release octaxial contact for use with aerospacegrade high-speed cable



- Support for all major high-speed datalink protocols
- Significant size and weight savings compared to quadrax

OPTIMIZED FOR USE WITH COAX CABLES



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 highperformance, 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



### GLENAIR SIGNATURE HIGH-FREQUENCY RF CONTACTS AND BLUMARK RF CABLE





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 radiationresistant space-grade ETFE. Triple-shielded high performance cables have expanded

- Low attenuation
- FEP and ETFE jackets
- Low Phase Change cables
- Eight size categories
- Compatible with standard RF/ **Microwave connectors**

PTFE dielectric core for low loss up to 40 GHz.



# SUPERFLY DATALINK

The **Nano Miniature** 10G Ethernet, USB 3.0, and HDMI 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

- Ultra-small size
- Shielded Octaxial contacts
- Up to 5 Gbps
- 10Gb Ethernet and SuperSpeed USB
- New Red insert for highspeed video, consult factory for layouts
- Environmentally protected
- Factory-terminated cables or discrete contacts and cables for customer assembly

# SERIES 882 SuperFly® Datalink

### Glenair.

The high-speed nano miniature connector for harsh environments

### CONNECTOR CONFIGURATIONS

Quick -disconnect "push-pull" versions are ideal for tactical gear. Threaded-coupling versions are intended for aircraft and spacegrade applications where secure mating is a requirement.



**Quick Disconnect** 



Threaded Coupling



**Straight PC Tails** 



**Right Angle PC Tails** 

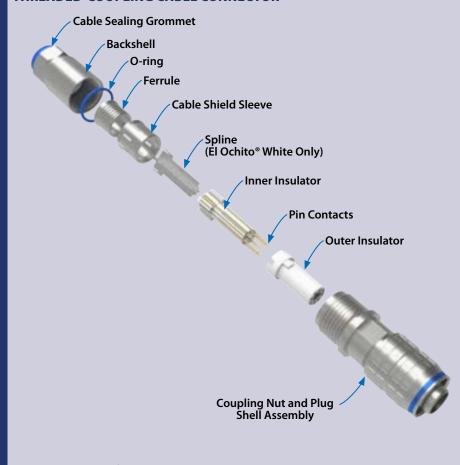


Conformal-coatingcompliant panel mount connectors

# PUSH-PULL QUICK-DISCONNECT Latching EMI Spring O-ring Interface Seal 882-001 Plug Connector 882-002 Receptacle Connector

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.





### TIME SAVING · LABOR SAVING · WEIGHT SAVING

# SpliceSaver™ Fast and Reliable Replacement for Wire Splice and Terminal Block Technologies



# Glenair SpliceSaver™ reduces manual wire

splice and terminal block operations

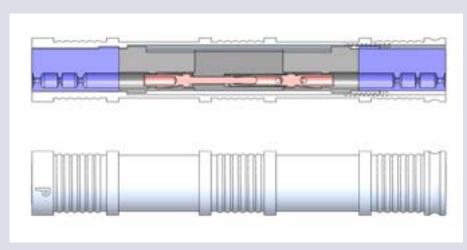
SpliceSaver™ is a lightweight, single-piece interconnect solution for vehicle wiring systems that use heat shrink splicing for signal, sensor, and data lines. It enables pre-termination of wires with crimp-and-poke contacts at remote harness assembly sites. During installation, wires are routed and quickly 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.

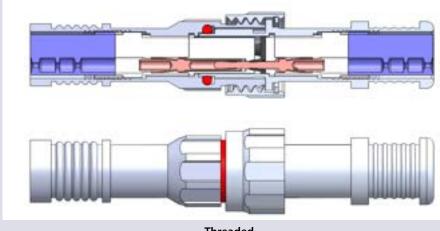
Compared to traditional terminal blocks and splice methods, SpliceSaver provides faster, cleaner, and more reliable wiring termination.

- **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

### SPLICESAVER AVAILABLE CONFIGURATIONS—FEATURES AND SPECIFICATIONS



Single-Piece



**Threaded** 



- 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





Micro-PSI: 10K PSI Open-Face Micro Miniature, High-Speed Hermetic Interconnects



The Series 707 Micro-PSI is a micro miniature high-pressure, high-temperature hermetic interconnect designed for the most demanding applications. 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 fuel-resistant Viton or Polyurethane jacketing. Bulkhead and flange mount receptacles utilize fused vitreous glass inserts for <1X10<sup>-7</sup> scc He/sec hermetic performance. Serviceable O-rings on plugs and face O-rings on receptacles provide the ultimate in high-reliability sealing.

- High-density, highpressure, small formfactor interconnect, ideal for fuel tank sensor applications
- Less than 1 x 10<sup>-7</sup> 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
- Available fuel-resistant Viton jacketing on turnkey cable assemblies

### 10K PSI

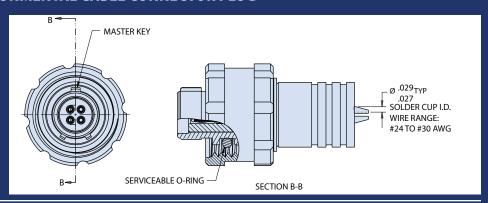
### Micro-PSI Micro-Miniature High-Speed Hermetic Connector



High-density · life-of-vehicle durability

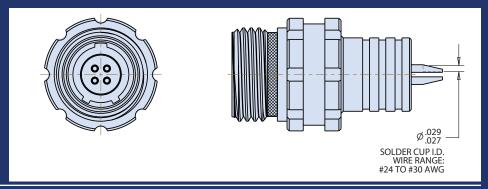
### 707-0264-1 MICRO-PSI ENVIRONMENTAL CABLE CONNECTOR PLUG

- 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



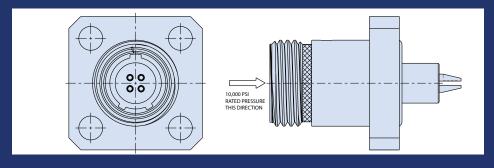
### 707-0264-5 MICRO-PSI HERMETIC CABLE CONNECTOR RECEPTACLE

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



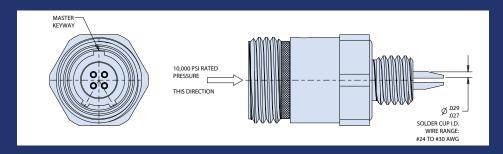
### 707-0264-6 MICRO-PSI HERMETIC FLANGE MOUNT RECEPTACLE

- 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







Lightweight, low-resistance hermetic sealing with 1X10<sup>-7</sup> leak-rate performance



Hermetically-sealed interconnects are used in vehicle pressure-sealed enclosures including electronic control units, high heat proximity applications, or to meet sensor isolation or general vibration and shock requirements. Hermetic connectors are primarily designed to prevent moisture and other contaminants from damaging sensitive electronic equipment. Glass-to-metal hermetic sealing has been the gold standard for decades due to the strength and long-term durability of the materials used, albeit with a big price tag in both weight and electrical resistance. CODE RED is an innovative sealing encapsulant 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<sup>-7</sup> max leak-rate hermetic sealing.







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- 1X10<sup>-7</sup> hermetic sealing in a lightweight aluminum shell
- Low-resistance goldplated copper contacts
- **Passed full D38999/23** qualification testing
- **Meets motorsport** requirements for vibration, shock, and long-term durability
- **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**



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

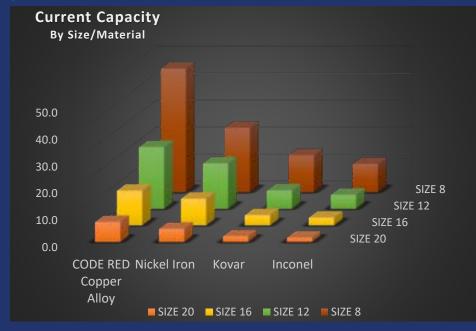
The entire qualification test cycle was repeated successfully with new parts to validate complete reliability.

### **CODE RED USES PROVEN-PERFORMANCE CONNECTOR AND CONTACT MATERIALS**

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

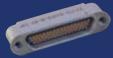
CODE RED vs. Glass-to-Metal MIL-DTL-38999 Sr. III		
Shell Size/Insert Arr.	Weight Reduction	
9-35	52%	
11-98	47%	
13-35	47%	
15-97	42%	
19-32	40%	
21-11	32%	
23-21	28%	
25-08	43%	

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.



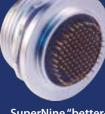
### **AVAILABLE CONNECTOR PACKAGES**













HiPer-D advanced- Micro-D M83513performance D-Sub

Series 79 crimp-

Sr. 806 Mil-Aero SuperNine "bettermicro miniature than-QPL" D38999

RF and high-speed



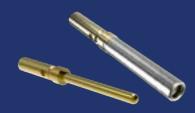


High-Temperature Tolerant Connectors, Cables, and Conduit Systems



High-temperature-tolerant interconnects are essential in areas exposed to extreme heat, particularly around the engine, turbochargers, exhaust system, and hybrid power unit components. These zones can reach temperatures well above 200°C, requiring connectors made with heat-resistant materials. Additional high-heat zones include the gearbox, braking systems, and rear suspension, where proximity to hot surfaces and carbon-carbon brakes demands durable, vibration-resistant interconnects. Even onboard cameras and telemetry modules near the exhaust or floor can face elevated heat. Glenair ThermaRex HT and UHT connectors ensure data integrity, performance, and safety under the harshest conditions.

### 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 highconductivity 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)

### HIGH-TEMPERATURE TOLERANT

### ThermaRex Interconnect Solutions



High-temperature · Ultra high-temperature

The ThermaRex product family includes connectors, cables, and wire protection conduit systems organized into two temperature ranges: ThermaRex HT (high-temperature), ThermaRex UHT (ultra high-temperature).

### **300°C ThermaRex HT Connector**

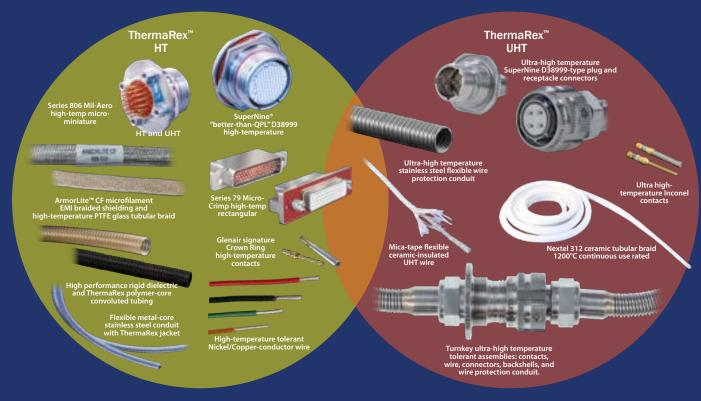


- Service rating up to 300°C
- Vibration-resistant threaded coupling
- High-temperature ceramic insulators and silicone seals
- Durable stainless steel construction
- Available in Series 806, SuperNine®, or Series 79 rectangular
- Utilizes Glenair Crown Ring contacts

### 600°C ThermaRex UHT Connector



- 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



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



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 Official Size (100) Official

- High-durability unlimited life-cycle performance
- 30 PSI open-face / IP68level sealing (box side)
- Ergonomic keyed pushpull 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

### SealTac Push-Pull Connectors



Spring-pin equipped Mighty Mouse harsh-environmental

### **CONNECTOR SELECTION GUIDE**

### **IN-LINE RECEPTACLES**



### 860-051-

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**





### 861-001

Series 86 spring contact push-pull receptacle-toreceptacle overmolded cable jumper

### **CABLE JUMPER**





### 861-002

Series 86 target contact push-pull plug-to-plug overmolded cable jumper

### **CABLE JUMPER**

High-speed HDMI



### 861-0

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



### 861-00

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)		



# Power Play\*\*

A Complete Ecosystem of Lightweight Vibration- and Shock-Resistant Power 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 safetouch socket tower and available safe-touch pin meets industry protection requirements for high-power-distribution applications.

- 5000 VAC dielectric withstanding voltage
- High current, lowresistance, 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 I PowerPlay Bayonet



Series 806 Mil-Aero PowerPlay High Density

Peripheral seal for

mating interface



Micro-Crimp PowerPlay Rectangular

Pin contacts with

protective "Safe

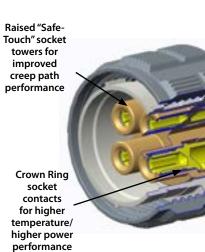
Touch" tips

### PowerPlay™: KEY CONNECTOR AND CONTACT DESIGN FEATURES, PLUG AND RECEPTACLE CUTAWAY VIEWS

Integrated

EMI spring

for improved



shell to shell environmental protection

Triple-ripple grommet provides submersed condition (altitude immersion) sealing on TurboFlex cable with easy contact installation and removal

Single-piece insulator eliminates bond lines that can lead to electrical failure MIL-DTL-38999
Series III
backshell
attachment
interface

### 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	



# **Motor**Head<sup>™</sup>

Low-Profile, High-Durability Power Connector with Low-Labor-Cost Assembly



The Glenair MotorHead power connector series is a low-profile, high-voltage solution for 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 POWER DISTRIBUTION 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 formfactor 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 lifeof-system durability and mating performance

# OPTIMIZED FOR USE WITH MIL STAR

### MIL-DTL-26482 Series 2 Type Rugged Bayonet-Coupling Crimp-Contact Connectors



- For advanced electronic control unit 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.

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







Narrow-flange wall-mount receptacles w



Wide-flange wall-mount receptacles



Cable-connecting receptacles



Jam-nut receptacles

### BAYONET-LOCK

### MIL-DTL-26482 Series 2



### Vibration- and shock-resistant

Coupling Torque				
	Torque			
Shell Size	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)		
Aititude (it.)	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 F	inish Optio	ns		
	Glenair code	Material	Finish	Finish Specification	Salt Spray Hrs.	Electrical Conductivity	Operating Temp. Range	RoHS Materials	Notes
	AB	Marine Bronze	Unplated	AMS4640 alloy, unplated	1000	Conductive	-65° to +200°C	✓	Marine and geo-physical applications
Glenair COTS Code	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.
	<b>Z</b> 1	Stainless Steel	Passivate		48	Conductive	-55° to +200°C	✓	Passivated stainless steel

### 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:



Consult Glenair for other material / finish options





IP67 and IP56-Rated Spring-Action Connector Interface Protective Covers



High-performance 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 all popular multipin connectors, and are supplied in a broad range of designs to meet every environmental sealing 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 aerospacegrade and commercial connectors including D38999 Series I, II, III, Mighty Mouse Series 801, 804, 805, and 806, MIL-DTL-24308 and more

### IP67 AND IP56 RATED

### **ProSeal Spring-Action Protective Covers**



For harsh environmental applications

### **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

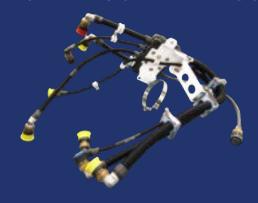




Polymer-Core and Metal-Core Wire Protection **Conduit System Components** 

# Turnkey conduit assembly for a rugged charging application

### **TURNKEY FACTORY-TERMINATED CONDUIT ASSEMBLIES**



Complex multibranch electrical brake wire conduit assembly

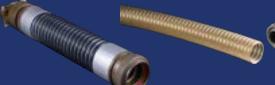


Lightweight, halogen-free wired conduit assembly



Crush-resistant metal-core conduit assembly

### 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



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

### HARSH-ENVIRONMENT

### Polymer- and Metal-Core Conduit Systems



High-temperature · crush-resistant · EMI/RFI shielded

### 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 factoryterminated assemblies

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





High-temperature, high- Easy-to-install Hat-Trick



Internal braid strength helical conduit wire protection system wire protection system wire protection system



**AeroLite** 

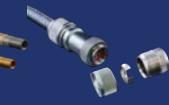


Non-wired factory-

### **CRUSH-RESISTANT METAL-CORE CONDUIT WIRE PROTECTION SYSTEMS**



Flexible, crush-proof EMI/ Low-profile RP Plus



RFI metal-core conduit wire protection system weight-saving composite wire protection system



Heavy-duty metal and



Legacy Mil-C-24758



Non-wired factory-terminated assemblies



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

Complete range of factory crimp and user-assemblable fittings

Non-wired factory-terminated





Heat Shrink Boots, Adapters, and Molded Shapes



reliable abrasion protection, strain relief, environmental sealing, splicing, and mechanical wire protection



shrink tubing solutions

### 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- Environmental Piggyback Boot in-a-Can" Piggyback Boot and Cable Feed-Thru in-a-Can" Piggyback Boot and Composite Backshell



### ENVIRONMENTAL

### Heat-Shrink Boots, Adapters, and Molded Shapes



Abrasion protection · environmental sealing · splicing · strain relief

### COMPLETE RANGE OF ENVIRONMENTAL HEAT-SHRINK BOOTS AND MOLDED SHAPES



### **SELECTED ENVIRONMENTAL SHRINK BOOT COLOR OPTIONS**



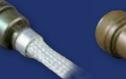
### **SHRINK BOOT ADAPTERS SELECTION GUIDE**



Shrink Boot



Series 311 EMI/RFI Lamp-Base Shield Sock/Boot Thread/Boot Adapters **Adapters** 



Series 319 Series 440 **Band/Boot** 

**Adapters** 



SAE-AS85049 QPL **Shrink Boot** 



Thermoplastic **Band/Boot Adapters** 



# UTOSHRINK

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 motorsport 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.



Mil-Aero / Industrial fluidresistant lipped shrink boots

Duralectric-jacketed cables

Fast and easy repair of Utilize for termination of lugs

- 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

### SERIES 77 AUTOSHRINK

### **Cold-Action Shrink 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 generalpurpose use in harsh-environmental electrical wire interconnect systems and other 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 industrial fuels, fluids, and solvents
- 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 harsh-environmental electrical wire interconnect systems and other 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 automotive 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 hightemperature applications in harsh-environmental 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 industrial fuels and 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







### 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.

DuPont<sup>™</sup> Nomex<sup>®</sup> and Kevlar<sup>®</sup> are trademarks or registered trademarks of E.I. DuPont de Nemours and Company. All other referenced marks and brands are registered to, or possessions of, their respective owners and/or companies.

- 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		High-Temp Low-Corrosion			
Braid Part Number and Material	100-001	100-002	100-003	100-005	100-004
Construction	Soft Drawn Tin Plated Copper	Soft Drawn Silver Plated Copper	Soft Drawn Nickel Plated Copper	Soft Drawn Tin Plated Copper-Clad Steel	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	102-060	102-001 · 102-002	102-020 thru -023	103-013 · 103-080	102-080	102-073	102-072	102-051	103-062	100-022	102-071
Construction	Mono. FEP	Mono. PET-FR	Mono. Halar®	Yarn, Nomex®	Mono. Ryton-R-7	Yarn, Dacron®	Yarn, Nylon	Mono. PEEK	Yarn, Nomex®	Yarn, PTFE- Glass	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





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. 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

### SUPER-DCSP

### **Dummy Contact Sealing Plugs (DCSP)**

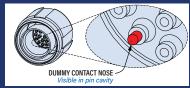


For reliable single-step sealing of unused contact cavities

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 ℃ 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 Pin Part Number **Socket Part Number** Series ø.181 (4.6) ø.094 (2.4) D38999 ø .181 (4.6) Aighty Mouse #12 Series 79 680-116-12 680-116-12S ø.128 (3.3) ø.062 (1.6) D38999 lighty Mouse #16 Series 806 Series 79 680-116-16 680-116-16S ø .093 (2.4) ø .040 (1.0) D38999 #20 Mighty Mouse 680-116-20 680-116-20S ø.084(2.1) ø.040(1.0) Mighty Mouse #20HD 680-116-20HD 680-116-20HDS ø.061 (1.5) ø.030 (0.8) ø.054 (1.4) ø.034 (0.9) D38999 #22 Mighty Mouse 680-116-22 680-116-22S ø.054 (1.4) ø.032 (0.8) ø 054 (14) —1.18 (30.0) MAX———— ø.027 (0.7) #22HD Series 806 680-116-22HD 680-116-22HDS ø.054 (1,4) ø.032 (0.8) D38999 Mighty Mouse Series 79 #23 -1.28 (32.5) MAXø.027 (0.7) 1.18 (30.0) MAX-680-116-23 680-116-23S

### Size 8 Dummy Contact Sealing Plugs

Contact Size	<b>Part Number</b> for D38999, Mighty Mouse, Series 790/791/793/795	<b>Part Number</b> for Series 806, Series 792
#8 Sealing Boot Not Included	0.315 (8.0) 0.188 (4.8) + 0.218 (5.5) 1.44 (36.6) MAX + 1 16.8	0.315 (8.0) 0.188 (4.8) 1 0.218 (5.5) 1 0.51 (38.3) MAX (5.5)
#8 Sealing Boot Included	680-116-8B	680-116-80B



Ground Straps, ESD Bonds, Busbars and Shunts-Glenair Signature and QPL Flexible Braided Solutions



Glenair flexible braided ground straps are used to establish reliable return path connections for circuits and systems, as well as dissipate electrostatic discharge. Special large form-factor straps are also employed in busbar applications for electrical power distribution up to 1000 Amps.

Glenair supplies a complete range of lugged flexible braided bonding, grounding, 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.

### PRODUCT LINE OFFERINGS

- Durable, low-resistance ground straps eliminate ground loops and electrical noise
- Lightweight, lowresistance flexible bond straps for ESD dissipation
- Heavy-duty variants for low-voltage, high-current power distribution busbar applications
- Custom application designs as well as standard highavailability catalog products

### ARMORLITE AND OTHER MATERIALS

### Ground Straps, Bonds, and Busbars



Flexible braided lightweight designs







MasterWrap: Flexible, Lightweight Wraparound Conductive- and Non-





MasterWrap™ is a lightweight, easy-to-install, side-entry, self-wrapping shielding solution for repair and reinforcement of overbraided wire harness assemblies. MasterWrap is available in conductive ArmorLite™ and abrasion-resistant Nomex®—high-performance materials offering outstanding weight reduction, EMI/RFI shielding, and rugged abrasion protection. MasterWrap ArmorLite and MasterWrap Nomex® have been qualified for use at major aircraft manufacturers for long cable runs, spot coverage, and repairs. The material can be applied equally well in motorsport harnessing.

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



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

### **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

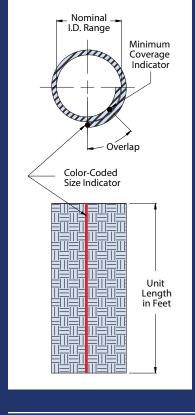
# MasterWrap™ Flexible, Lightweight Wraparound Cable Shielding



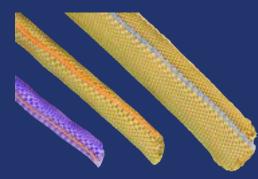
for spot mechanical coverage and repair of wire harnesses

### MASTERWRAP (NOMEX®): DIMENSIONAL INFORMATION AND MATERIAL SPECIFICATIONS





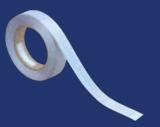
	Available sizes, colors, specifications											
Dash	Nominal I.D. (Ref.)		Ref. Wire Bundle Range Nominal		Approx. Weight	Min. Pull	Size Indicator	Quantity				
No	ln.	mm	ln.	mm	Grams/Ft.	Strength (lbs)	color code	feet/spool				
004	.125	3.2	.093 .170	2.4 4.3	1.8	39	Black	50–500				
008	.250	6.4	.170 .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.



### **Band-Master ATS**®

Light Weight • High-Tension • Low-Resistance Shield Termination Bands and Tools

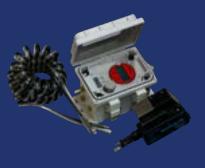
# Industry Advisory RE: Shield Termination Bands and Tools Precision bands and tools are exactingly dimensioned and calibrated for repeatable, reliable performance. But like many such equipment pairings, the products ONLY deliver 100%.

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 bandittools@glenair.com.

### Band-Master ATS® System Overview



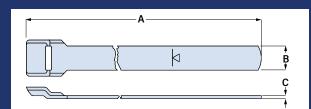
Band-Master ATS® EMI shield termination system instruction manuals and calibration details: www.glenair.com/bandmaster



**High Volume Pneumatic Tool** 

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.





### 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



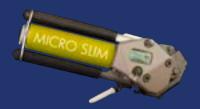
Industry-leading · guaranteed quality · reliable performance

### **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  $\pm$  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.  $\pm$  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.  $\pm$  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.

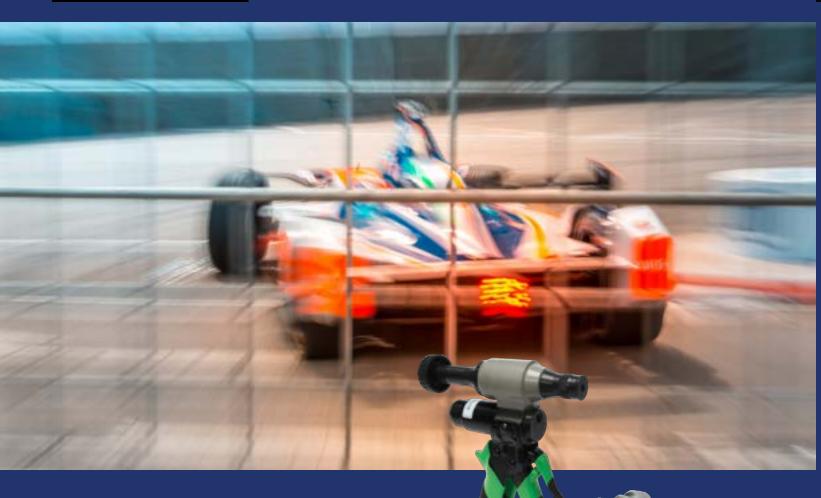
Recommended Band Part Numbers										
Size		A ngth mm	Fits up in	to Dia. mm	Wid in		Thick in		Part Number Pre-coiled	Hand Tool Part Number
Micro-Max	8	203	.88	22.4	.12	3.0	.015	0.4	601-701	601-129
IVIICTO-IVIAX	14	356	1.88	47.7	.12	3.0	.015	0.4	601-703	001-129
Missa Olim	8	203	.88	22.4	.12	3.0	.01	0.3	601-601	CO1 100
Micro Slim	14	356	1.88	47.7	.12	3.0	.01	0.3	601-603	601-122
	6	152	.60	15.2	.075	1.9	.009	0.9	601-501	
Nano	9	229	.94	23.9	.075	1.9	.009	0.9	601-505	601-108
	14	356	1.80	45.7	.075	1.9	.009	0.9	601-509	•
Clim Ctondord	9	228	.94	23.9	.24	6.1	.01	0.3	601-571	601 100
Slim Standard	14	355	1.80	45.7	.24	6.1	.01	0.3	601-573	601-109



# Cround Contro

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, 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

### GroundControl

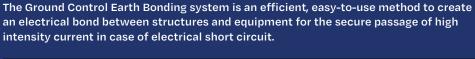
### Earth Bond / Ground Stud **Installation System**



Fast · clean · weld-free · corrosion-resistant

### **GROUND CONTROL EARTH BOND SYSTEM: TOOL SELECTION AND SPECIFICATIONS**





	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 second feet.	The total feeting are hand an autism and upon votured as a sharing a structural by value of this may							

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
- 4. Attach the cable to the bond and tighten the nut

The installation is complete!





# INTERCONNECT SOLUTIONS



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