Glenair®

SAV-CON® CONNECTOR SAVERS

MS CIRCULAR • MIGHTY MOUSE • D-SUB • MICRO-D

JANUARY 2015

SERIES 94

SAV-CON®
Connector Savers

The smart solution for preventing contact damage and extending service life

Glenair Sav-Con® connector savers are the smart solution for preventing contact damage and extending the service life of cable assemblies. Sav-Con® connector savers protect connectors that are mated and unmated frequently during manufacturing, test, check-out phases, and environmental test programs. They prevent costly repair or replacement by absorbing connect and disconnect abuse. Glenair Sav-Con® connector savers are available for all MS circular connector types, as well as for Glenair Mighty Mouse connectors, D-Subminiature and Micro-D connectors.

Glenair, Inc.
1211 Air Way
Glendale, CA
91201-2497
818-247-6000
sales@glenair.com
www.glenair.com

Sav-Con® connector savers

For circular and rectangular connector applications

Table of Contents

A

B

C

D

SAV-CON®

Connector Savers

The smart solution for preventing contact damage and extending the service life of cable assemblies and mounted receptacles

Sav-Con® connector savers protect connectors that are mated and unmated frequently during manufacturing, test, check-out phases, and environmental test programs. They prevent costly repair or replacement by absorbing connect and disconnect abuse. Glenair Sav-Con® connector savers are available for both standard and high-density insert arrangements. Popular Sav-Con® part numbers, especially for N (normal) polarization are in-stock and ready for immediate, same-day shipment. Glenair also manufactures and supplies Sav-Con® connector savers and bulkhead feed-thrus for a complete range of MS circular and rectangular connectors.

- **Traditional plug-receptacle savers, as well as in-line versions and gender changers**
- **Available EMI/EMP filter savers and adapters**
- **Pin/pin, pin/socket, and socket/socket versions**
- **Optional locking mechanism (recommended for bayonet-style connectors)**

Series changers and gender changers available in both Sav-Con® and bulkhead feed-thru configurations

Sav-Con® connector savers

Circular, rectangular and special application

MIlitary standard and commercial connectors

FULL RANGE OF CICULAR MILITARY STANDARD CONFIGURATIONS

MIL-DTL-38999 Series III Type
Plug/Receptacle Go-Between

MIL-DTL-38999 Series II

MIL-DTL-5015 Type

Series 80 Mighty Mouse

SAV-CON® RECTANGULAR D-SUBMINIATURE, MICRO, AND NANO MINIATURE CONNECTOR SERIES

M24308
D-subminiature

Micro-D

Nano-Miniature™

HiPer-D®

SAV-CON® SPECIAL APPLICATION CONNECTOR SERIES

MIL-DTL-38999 Series III Type
In-Line Gender Changer

MIL-DTL-38999 Series III
Type Filtered Adapter

HiPer-D® Gender
Changer

Micro-D Filter

Each Glenair Sav-Con® Connector Saver meets the military specification performance requirements of its mating connector. Glenair manufactures and supplies a Sav-Con® connector saver for most every military standard connector currently in use including:

- **MIL-DTL-26482 Series I and II**
- **MIL-DTL-28840**
- **MIL-DTL-38999 Series I, II and III**
- **MIL-DTL-83723 LN 29729 (SJT)**
- **PATT 105 and PATT 602**
- **Series 801 and 805 Mighty Mouse**
- **M24308 D-Subminiature**
- **MIL-DTL-83513 Micro-D Subminiature**
- **MIL-DTL-5015**
- **Series 28 HiPer-D® M24308 intermateable**
- **Series 89 Nano Miniature™ M32139**
- **Series 79 Micro-Crimp®**

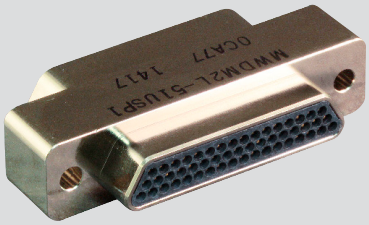
Comprehensive materials, plating, and polarization options available

Sav-Con® connector savers

For circular and rectangular connectors

Overview

A



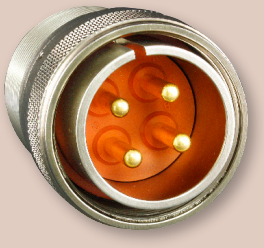
- For most every Military Standard connectors
- All standard materials and finish platings
- General duty, environmental, filter, hermetic and high-reliability performance classes
- Pin/pin, pin/socket, socket/socket versions, as well as gender changers
- Optional locking mechanism
- Keyed polarization

RoHS COMPLIANT

Sav-Con® Connector Savers are the smart solution for preventing contact damage and extending the service life of cable assemblies

Glenair Makes a Sav-Con® Connector Saver for Most Every Military Standard Connector Currently in Use

- MIL-DTL-26482 Series I and II
- MIL-DTL-28840
- MIL-DTL-38999 Series I, II and III
- MIL-DTL-83723
- LN 29729 (SJT)
- PATT 105 and PATT 602
- MIL-DTL-5015
- Series 801 and 805 Mighty Mouse
- M24308 Subminiature
- Series 28 HiPer-D®
- Series MWDM Micro-D Subminiature
- Series 89 Nano-Miniature™
- Series 79 Micro-Crimp®
- EMI/EMP Filter Circular and Rectangular



Mil-Spec Compliance

Each Glenair Sav-Con® Connector Saver series meets the same durability requirements as the Military Specification series with which it mates. The mating portions of the pin-and-socket contacts are in strict compliance with the applicable Military Specification contacts used in each connector series.

Circuit Probing

The closed-entry socket contact design permits probing for individual circuits during equipment test and check-out, preventing possible damage to the equipment connectors.

Standard Material and Finishes

- Shell, Barrel and Coupling Nut – 300-series stainless steel, titanium, aluminum
- Front and Rear Insulators – Glass reinforced thermoset plastic
- PC Receptacle Potting – High-performance potting material
- Finish – See material and finish table
- Contacts – PC tails, socket and pin crimp contacts – Copper alloy, gold plated
- Contact Retention Clip – Beryllium copper, heat-treated, unplated
- Retaining Ring – Ryton
- Wave Spring – CRES

Military Specification Compliance			
Characteristic	Class 0	Class 1	Class 2
Mechanical			
Mating/Unmating Forces	Yes	Yes	Yes
Durability	Yes	Yes	Yes
Insert retention	Yes	Yes	Yes
Contact Retention	Yes	Yes	Yes
Coupling Pin strength	Yes	Yes	Yes
Contact Engagement & Disengagement Forces	Yes	Yes	Yes
Resistance to Probe Damage	Yes	Yes	Yes
EMI Ground Spring Forces	Yes	Yes	Yes
Electrical			
Contact Resistance	Yes	Yes	Yes
Electrical Engagement	Yes	Yes	Yes
Insulation Resistance	Yes	Yes	Yes
Dielectric Withstanding Voltage	Yes	Yes	Yes
Magnetic Permeability	Yes	Yes	Yes
Electrical Conductivity	Yes	Yes	Yes

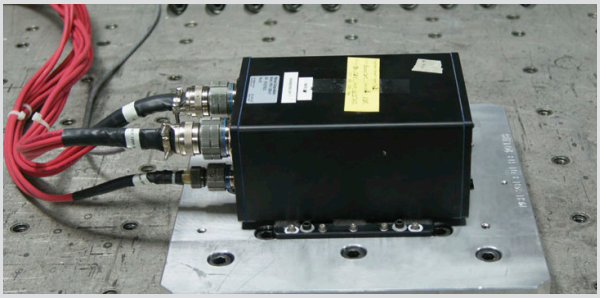
Shell Finishes			
Plating Code	Material	Finish	Specification
M	Aluminum	Electroless Nickel	AMS-C-26074
B	Aluminum	Cad Plate, Olive Drab	AMS-QQ-P-416, Type II, Class 3
NF	Aluminum	Cadmium Plate Olive Drab over Electroless Nickel	AMS-QQ-P-416, over AMS-C-26074 (1000 Hour Salt Spray)
NC	Aluminum	Zinc-Cobalt	ASTMB840
ZN	Aluminum	Olive Drab Zinc-Nickel	Zinc alloy per ASTM B841-91, Class 1 Type E Grade 3 over Electroless nickel per ASTM B733-90 SC2, Type 1 Class 5
MT	Aluminum	Ni-PTFE 1000 Hour Grey™ (Nickel Flourocarbon Polymer)	MIL-DTL-38999 (500 Hour Salt Spray)
ZR	Aluminum	Zinc Nickel, Black	
ME	Aluminum	Electroless Nickel (RoHS)	

Sav-Con® connector savers
Circular military standard connectors
Performance selection guide

A

Sav-Con® Product Applications

Glenair Sav-Con® Connector Savers are designed to protect connectors that are subject to repeated mating and unmating cycles. Sav-Con® Connector Savers prevent costly repair or replacement of expensive connectors and cables while preserving the quality and integrity of connector performance. Sav-Con® Connector Savers take the abuse of repeated connection cycles instead of "black box" or other equipment connectors. Equipment connectors that are mated and unmated frequently during manufacturing, check-out phases and environmental test programs can be protected by Glenair Sav-Con® Connector Savers at considerable savings in time and money.



When a Sav-Con® Connector Saver is installed between a receptacle and a plug, the effective additional length is less than the length of an equivalent mated plug and receptacle. When using bayonet coupled Sav-Con® Connector Savers, Glenair recommends our Lock Ring design feature in applications where large cable bundles may induce unwanted stress to the coupling mechanism and potential unwanted contact displacement.

Choosing the right Sav-Con® Connector Saver for your application

All classes of Glenair Sav-Con® Connector Savers feature one-piece, non-removable pin/socket contacts for maximum reliability and minimum effect on circuit resistance. The mating portions of the pin-and-socket contacts are in strict compliance with the applicable Military Specification contacts used in each connector series. The one-piece design adds resistance to a circuit equal to a mated pin and socket contact, thus it has minimum or no effect on sensitive circuits.

All bayonet coupled Sav-Con® Connector Savers are available with an optional locking feature on the coupling nut. This feature eliminates the wave spring inside the coupling nut, thus providing positive metal-to-metal bottoming out of the plug side of the Sav-Con® Connector Saver to the mating receptacle. Improved durability can be provided by specifying the optional dry lubricant on the inside surfaces of the coupling nut.
Note: *Dry lubricant is not recommended for space applications due to outgassing requirements.*

Glenair Sav-Con® Connector Savers are available in one or more of the following service classes (see specific series page for details):

Class 0 - General Duty	Class 1 - Environmental	Class 2 - Hi-Rel
Glenair's basic Sav-Con® design is suitable for use in benign environments, such as manufacturing and bench test areas. Not recommended for use in environmental test programs, or in installations which will be exposed to non-ambient conditions.	This category offers peripheral and interfacial sealing to comply with mating connector environmental requirements.	High-performance versions of Class 1 configurations. This design employs materials to provide an extremely broad operating temperature range. Additional outgassing is also available via a modification code for use in space applications. Consult factory for appropriate modification code.

Optional Lock Ring prevents accidental disengagement of bayonet coupled connectors

The Coupling Nut:

This feature eliminates the wave spring inside the coupling nut, thus providing positive metal-to-metal bottoming out of the plug side of the Sav-Con® Connector Saver to the mating receptacle. This is a desirable option in the following applications:

Locking a Sav-Con® to a receptacle:

Locking a Sav-Con® Connector Saver to a receptacle can prevent accidental or unauthorized unmating. This can insure that the equipment receptacle remains in its unused condition prior to delivery.

Locking a Sav-Con® to reduce lateral forces:

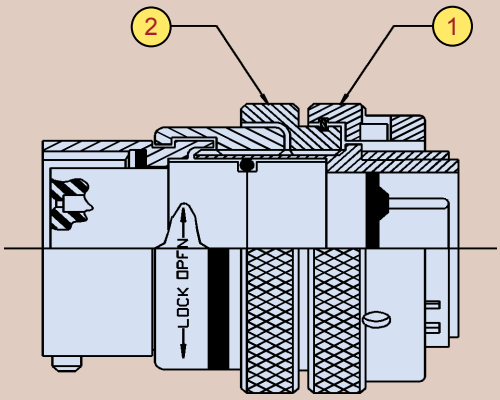
Lateral forces caused by a heavy cable can be reduced when the Sav-Con® Connector Saver is locked to the equipment receptacle. On high-density connectors that have a limited pin-and-socket engagement length, the force applied by a heavy cable can collapse the wave spring and create unwanted discontinuities in the mated contacts.

Locking a Sav-Con® when delivered to end-user:

When equipment is delivered to the end-user, the Sav-Con® Connector Saver may be locked to its mating receptacle to insure that the receptacles mounted on the equipment will remain unused until final installation of the equipment.

Locking a Sav-Con® to a cable mounted plug:

It is often desirable to lock a Sav-Con® Connector Saver on a cable-mounted plug coupler to prevent accidental disconnect of the Sav-Con®.



Locking a Sav-Con® Connector Saver to a receptacle can prevent accidental or unauthorized unmating. This can insure that the equipment receptacle remains in its unused condition prior to delivery.

1. To engage the plug portion of the saver, first ensure that the Lock Ring (2) is in the fully open position by turning the Lock Ring by hand clockwise until it stops.
2. Couple (1) to the Mating receptacle. Note: Pins should be visible in the three holes of the Coupling Ring (1).
3. To lock the Sav-con®, turn the Lock Ring (2) counter-clockwise by hand until it stops. This will seat the bayonet pins.
4. Dis-Engagement is the reverse of steps 3 and 2. Turn Lock Ring (2) to the open position clockwise by hand until it stops. Then rotate the Coupling Ring (1) counter-clockwise until all contacts are separated.

CATALOG NOTES

For all circular Sav-Con® connectors in this catalog:

- All parts will be identified with manufacturer's name and part number, space permitting.
- Glenair 600 series backshell assembly tools are recommended for assembly and installation.
- Dimensions are subject to change without notice. Metric dimensions appear in parentheses in diagrams and tables, based on 1 inch = 25.4 mm, for reference only. Unless otherwise specified, the following other dimensional tolerances apply:
  .xx = ± .03 (0.8) Lengths = ± .060 (1.52)
  .xxx = ± .015 (0.4) Angles = ± 5°

Customers are advised to consult the factory for the latest specifications, particularly to confirm critical dimensions such as connector lengths, threads, and so on. When errors or mistakes are brought to our attention, corrected content is posted immediately to www.glenair.com.

Sav-Con® connector savers
D-Subminiature Rectangular connectors
Series 28 HiPer-D® Specifications

A

Sav-Con® HiPer-D® Shell Plating Codes					
Shell Plating	Glenair Plating Code	Salt Fog (Hours)	RoHS Compliant	Conductivity	Typical Applications
Electroless Nickel	ME	96	RoHS COMPLIANT	Excellent	Space vehicles, missiles, avionics, unmanned vehicles, instrumentation. Corresponds to MIL-DTL-24308 Class K.
Nickel-PTFE	MT	500	RoHS COMPLIANT	Excellent	Harsh environment, soldier systems, communications equipment. Corresponds to MIL-DTL-24308 Code T.
Zinc-Nickel with Black Chromate	ZR	500	RoHS COMPLIANT	Good	Harsh environment, soldier systems. Corresponds to MIL-DTL-24308 Code K.
Cadmium with Olive-Drab Chromate	NF	500	No	Excellent	Harsh environment, military equipment.
Cadmium with Yellow Chromate	JF	500	No	Excellent	General purpose military equipment. Comparable to MIL-DTL-24308 Code F.
Black Anodize	C	336	RoHS COMPLIANT	Non-Conductive	Applications where EMI shielding is not required.
Gold	Z2	48	RoHS COMPLIANT	Excellent	Space. Corresponds to M24308 Class M.
Chem Film	E	48	No	Excellent	Avionics
Stainless Steel, Electroless Nickel	ZM	500	RoHS COMPLIANT	Excellent	Extreme environments where stainless steel is preferred for strength, corrosion resistance,and where high conductivity is desired.
Stainless Steel, Passivated	Z1	500	RoHS COMPLIANT	Good	Extreme environments where stainless steel is preferred for strength, corrosion resistance. Corresponds to MIL-DTL-24308 Class P.

Sav-Con® HiPer-D® Specification		
Description	Material	Finish
Contacts	Copper Alloy	Gold (50 microin.) over nickel
Socket Contact Hood (Size 20, 22)	Stainless steel	Passivated
Shell	Aluminum Alloy or stainless steel	See ordering information
Insulators	Ultem 2300	None
Interfacial Seal	Fluorosilicone	None
Grommet	Fluorosilicone	None
EMI Spring	Copper alloy	Electroless nickel
Contact retention clips	Copper alloy	None
Insert retention clip	Copper alloy	None
Adhesive/Sealant	RTV silicone	None
Hardware	Stainless steel (300 series)	Passivated
O-ring	Fluorosilicone	None

Sav-Con® connector savers
Rectangular connectors
Micro-D Specifications

Sav-Con® Micro-D Plating Codes: ROHS Compliance			
Micro-D Plating Code	**Plating Type**	**RoHS Compliance**	**Notes**
1, A	Cadmium with yellow chromate conversion coating over electroless nickel	No	Electroless nickel is the preferred alternate.
2, B	Electroless nickel	RoHS COMPLIANT	First choice for RoHS compliance. Good corrosion resistance, excellent conductivity, M83513 approved, always in stock.
3, F	Stainless steel shell, passivated	RoHS COMPLIANT	Higher cost but unsurpassed corrosion resistance, not conductive enough for typical EMI needs. Build-to-order.
4, D	Black anodize over aluminum	RoHS COMPLIANT	Economical, non-reflective, non-conductive. Build-to-order.
5, E	Gold over aluminum	RoHS COMPLIANT	Low volume, higher cost, excellent conductivity. Build-to-order.
6, C	Chem film	No	Electroless nickel is the preferred alternate.
33, T	Nickel-PTFE	RoHS COMPLIANT	Glenair's 500 Hour Grey™ meets the need for a cadmium replacement with excellent conductivity, wear resistance and corrosion protection, M83513 approved.

Sav-Con® MIcro-D Material Specification	
Component	**Material and finish**
Connector Shell	Aluminum Alloy 6061 or Stainless Steel, 300 Series, Passivated. See Ordering Information for Aluminum Plating Options.
Insulator	Liquid Crystal Polymer (LCP)
Seals	Fluorosilicone Rubber, Blue
Pin Contact	Beryllium Copper With 50 Microinches Gold over Nickel Plating
Socket Contact	Copper Alloy With 50 Microinches Gold Over Nickel Plating
Hardware	300 Series Stainless Steel
PCB Terminals	Gold-Plated Copper Alloy, Solder Dipped
Capacitors	Planar Ceramic Array
Inductors	Ferrite
EMI Ground Spring	Beryllium Copper, Gold Plated
Encapsulant	Thermally Conductive Epoxy

Sav-Con® Micro-D Performance Summary	
Current Rating	3 AMP
Dielectric Withstanding Voltage	250 VDC
Working Voltage	100 VDC
Insulation Resistance	5000 Megohms Minimum
Contact Resistance	8 Milliohms Maximum
Low Level Contact Resistance	32 Milliohms Maximum
Magnetic Permeability	2 µ Maximum
Operating Temperature	-55° C. to +125° C.
Shock	50 g.
Vibration	20 g.
Mating Force	(10 Ounces) X (# of Contacts)

Sav-Con® connector savers

Rectangular connectors

Series 89 Nano-Miniature™ Specifications

A

Sav-Con® Nano-Miniature™ Plating Codes: ROHS Compliance			
Nano Plating Code	**Plating Type**	**RoHS Compliance**	**Notes**
A1	Cadmium with yellow chromate conversion coating over electroless nickel	No	Electroless nickel is the preferred alternate.
A2	Electroless nickel	RoHS COMPLIANT	First choice for RoHS compliance. Good corrosion resistance, excellent conductivity, M32139 approved, always in stock.
S	Stainless steel shell, passivated	RoHS COMPLIANT	Higher cost but unsurpassed corrosion resistance, not conductive enough for typical EMI needs. Build-to-order.
T	Titanium, unplated	RoHS COMPLIANT	Higher cost but unsurpassed corrosion resistance, not conductive enough for typical EMI needs. Build-to-order.

Sav-Con® Series 89 Nano-Mianiture™ Material Specification	
Connector Shell	Aluminum Alloy, Electroless Nickel Plated Per SAE-AMS-C-26074, Class 3 or 4, Grade B
Socket Insulator	Liquid Crystal Polymer (LCP), per MIL-M-24519 or ASTM D5138
Plug Insulator	Liquid crystal polyer (LCP) per MIL-M-24519 or ASTM D5138
Potting material	Dexterhysol epoxy
Plug contact	Gold alloy per AST B477 and ASTM B541
Socket Contact	Gold alloy, unplated, per ASTM B477 or ASTM B541.
Wire	30 AWG gold plated copper alloy
Hardware	300 Series Stainless Steel
Encapsulant	Epoxy

Sav-Con® Series 89 Nano-Mianiture™ Performance Summary	
Contact Spacing	.025" (0.64) Contact Centers
Wire Accommodation	#30-#32 AWG
Current Rating	1 AMP Maximum
Voltage Rating (DWV)	250 VAC RMS Sea Level, 100 VAC RMS 70,000 Feet
Insulation Resistance	5000 Megohms Minimum
Operating Temperature	-55° C. to +125° C.
Optional High Operating Temperature	Mod Code 428 rated up to 400° C.
Contact Resistance	71 Millivolt Drop Maximum, 1 AMP Current, #30 AWG Wire
Vibration	20 g's, in Accordance with EIA-364-28, Condition IV
Shock	100 g's, in Accordance with EIA-364-27, Condition G
Durability	200 Mating Cycles
Corrosion Resistance	48 Hours Salt Spray In Accordance With EIA-364-26, Condition B
Humidity	96 Hours, In Accordance with EIA-364-31 Condition A
Contact Engaging/Separation Force	5 Ounce Maximum, 0.4 Ounce Minimum
Thermal Vacuum Outgassing	Total Mass Loss (TML) 1.0% Max., Volatile Condensible Material (VCM) 0.1% Max.

Sav-Con® connector savers
Rectangular connectors
Series 79 Micro-Crimp® Specifications

Sav-Con® Series 79 Mico-Crimp® Shell Plating Codes							
Shell Plating	**Plating Code**	**Salt Fog* (Hours)**	**Cadmium Free**	**Hexavalent Chromium Free**	**Conductivity**	**Compatible with EMI Spring**	**Typical Applications**
Electroless Nickel	M	48	Yes	Yes	Excellent	Yes	Space vehicles, missiles, avionics, unmanned vehicles, instrumentation
Nickel-PTFE	MT	500	Yes	Yes	Excellent	Yes	Harsh environment, soldier systems, communications equipment
Zinc-Nickel with Olive-Drab Chromate	ZN	500	Yes	No	Good	No	Harsh environment, soldier systems, unmanned and manned vehicles
Zinc-Nickel with Black Chromate	ZNU	500	Yes	No	Good	No	Harsh environment, soldier systems, unmanned and manned vehicles
Cadmium with Olive-Drab Chromate	N	500	No	No	Excellent	No	Harsh environment, military equipment
Cadmium with Yellow Chromate	J	500	No	No	Excellent	No	General purpose military equipment
Black Anodize	C	336	Yes	Yes	Non-Conductive	N/A	Applications where EMI shielding is not required
Gold	Z2	48	Yes	Yes	Excellent	Yes	Space
Chem Film	E	48	Yes	No	Excellent	Yes	Avionics
* Salt spray test in accordance with ASTM B117							

Sav-Con® Series 79 Micro-Crimp® Material Specification	
Size #23 contacts	Beryllium copper alloy, plated gold over nickel
Size #16 and #12 contacts	Copper alloy
Insulators	Liquid crystal polymer, 30% glass-reinforced
Shell	Aluminum alloy. See ordering info for finish options
Interfacial seal and grommet	Fluorosilicone
Contact and insert retention clips	Beryllium copper, heat-treated, unplated
Jackposts and guide pins	Stainless steel, passivated
Spring, EMI (plug)	Stainless steel or beryllium copper alloy, gold plated

Sav-Con® Series 79 Micro-Crimp® Performance Summary	
Current rating	Contact size #23 5 Amps, size #16 13 Amps, size #12 23 Amps maximum
Voltage rating (DWV)	Contact size #23 500 VAC rms. Size #16 and #12 1800 VAC rms. Sea level.
Insulation resistance	5000 megohms minimum
Operating temperature	-65° C. to +150° C.
Contact resistance	5 milliohms maximum
Water ingress protection	IP67 (Mated condition)
Shielding effectiveness	>75 dB attenuation from 100 MHz to 1000MHz, >60dB 1GHz to 4GHz, >40dB 4GHz to 10GHz.

CIRCULAR CONNECTORS

SAV-CON®

Circular Connector Savers

High reliability connector savers for mission-critical applications

Glenair Sav-Con® Connector Savers are designed to protect the quality and integrity of connectors that are mated and unmated frequently during manufacturing, test, check-out phases or environmental test programs. Available in general duty, environmental, and high-reliability performance classes with keyed polarization and optional locking mechanisms for bayonet style connectors, Glenair offers Sav-Con® Connector Savers for most all MS cylindrical connector series—many in-stock and available for immediate, same-day shipment.

Glenair, Inc.
1211 Air Way
Glendale, CA
91201-2497
818-247-6000
sales@glenair.com
www.glenair.com

Sav-Con® connector savers
Circular connectors
Selection Guide

STANDARD OR FILTERED SAV-CON® CONNECTORS FOR MILITARY AND COMMERCIAL CYLINDRICAL CONNECTORS

Glenair standard and filtered Sav-Con® Connector Savers are available in a wide range of military standard configurations including MIL-DTL-26482 Series I and II; MIL-DTL-28840; MIL-DTL-38999 Series I, II and III; MIL-DTL-837323 Series I and III, threaded and bayonet connector savers; LN 29729 (SJT); PATT 105-PATT 602; and MIL-DTL-5015. Each Glenair Sav-Con® connector saver meets the same durability requirements as the military specification series with which it mates.

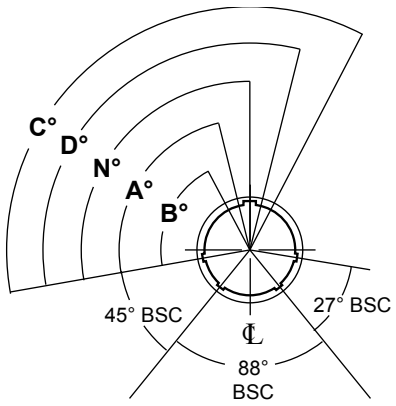
B

B

Table I: Material and Finish		
Plating Code	Material	Finish
M	Aluminum	Electroless Nickel
B		Cad Plate, Olive Drab
NF		Cadmium Plate Olive Drab over Electroless Nickel
NC		Zinc-Cobalt
ZN		Olive Drab Zinc-Nickel
MT		Ni-PTFE 1000 Hour Grey™ (Nickel Flourocarbon Polymer)
ZR		Zinc NIckel, Black
ME		Electroless Nickel (RoHS)
ZL	Stainless Steel	Electro-Deposited Nickel

Table II: Insert Arrangement					
Shell Size Desig.	Insert Arr. Dash No.	Contact Size and Qty			
		22	20	16	12
9	9-3		3		
	9-44	4			
	9-35	6			
	9-98		3		
11	11-2			2	
	11-4		4		
	11-5		5		
	11-6		6		
	11-35	13			
	11-98		6		
	11-99		7		
13	13-4			4	
	13-8		8		
	13-35	22			
	13-98		10		
15	15-5			5	
	15-15		14	1	
	15-18		18		
	15-19		19		
	15-35	37			
	15-97		8	4	
17	17-6				6
	17-8			8	
	17-26		26		
	17-35	55			
	17-99		21	2	
19	19-11			11	
	19-28		26	2	
	19-30		29	1	
	19-32		32		
	19-35	66			
	19-45	67			

Table II: Insert Arrangement					
Shell Size Desig.	Insert Arr. Dash No.	Contact Size and Qty			
		22	20	16	12
21	21-35	79			
	21-11				11
	21-16			16	
	21-24		24		
	21-25		25		
	21-27		27		
	21-39		37	2	
	21-41		41		
23	23-35	100			
	23-2	85			
	23-21			21	
	23-32		32		
	23-34		34		
	23-36		36		
	23-53		53		
	23-55		55		
	23-97			16	
	23-99			11	
25	25-2	100			
	25-4		48	8	
	25-19				19
	25-24			12	12
	25-29			29	
	25-35	128			
	25-43		23	20	
	25-61		61		



FACE VIEW
RECEPTACLE

Table III: Main and Alternate Keyway Positions					
Shell Size Desig.	N°	A°	B°	C°	D°
9	95	77	-	-	113
11	95	81	67	123	109
13	95	75	63	127	115
15	95	74	61	129	116
17	95	77	65	125	113
19	95	77	65	125	113
21	95	77	65	125	113
23	95	80	69	121	110
25	95	69	69	121	110

Table IV: Capacitor Array Code Capacitance Range for Filtered Connectors		
Class	Pi - Circuit (pF)	C - Circuit (pF)
X*	160,000 - 240,000	80,000 - 120,000
Y*	80,000 - 120,000	40,000 - 60,000
Z*	60,000 - 90,000	30,000 - 45,000
A	38,000 - 56,000	19,000 - 28,000
B	32,000 - 45,000	16,000 - 22,500
C	18,000 - 33,000	9,000 - 16,500
D	8,000 - 12,000	4,000 - 6,000
E	3,300 - 5,000	1,650 - 2,500
F	800 - 1,300	400 - 650
G	400 - 600	200 - 300
J	70-120	35-60

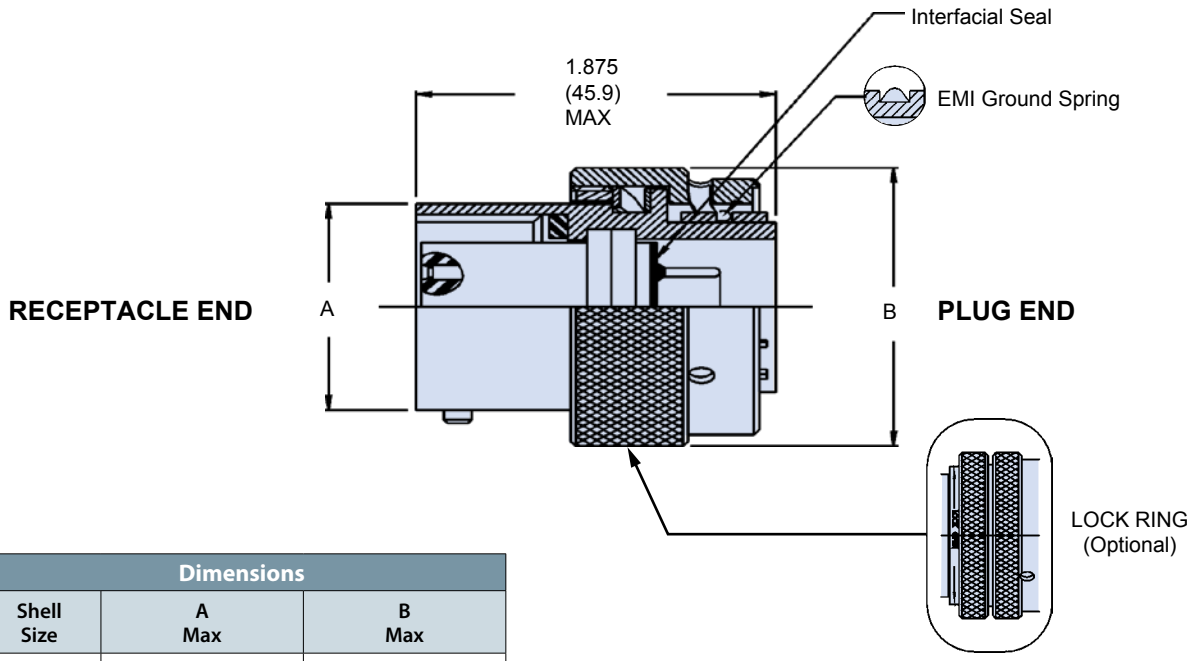
* Filter Classes X, Y and Z are 250 VDC.
All others are 500 VDC

Sav-Con® connector savers
MIL-DTL-38999 Series I
941-003 and 942-003 Bayonet Coupling

941-003 ENVIRONMENTAL AND 942-003 HIGH RELIABILITY WITH BAYONET COUPLING

How To Order									
Sample Part Number	**94**	**1**	**L**	**003**	**M**	**17-35**	**P**	**A**	**131**
Series	**94**								
Class	**1** = Environmental **2** = High Reliability								
Lock Ring (optional)	**L** = Lock Ring **–** (dash) = Standard								
Basic Number	**003**								
Finish	See Table I								
Shell Size - Insert Arrangement	See Table II								
Contact Type	**P** = Pins, Plug Side **S** = Sockets, Plug Side								
Alternate Key Position	**A, B, C, D, N** = Normal; See Table III								
Mod Code	**131** = Dry Lube (Omit for None)								

*Add Modification Code 131 for dry lubricant on inside surfaces of the coupling nut. May not be suitable for space applications.



Dimensions		
Shell Size	**A Max**	**B Max**
09	.573 (14.6)	.910 (23.1)
11	.701 (17.8)	1.035 (26.3)
13	.851 (21.6)	1.210 (30.7)
15	.976 (24.8)	1.330 (33.8)
17	1.101 (28.0)	1.455 (37.0)
19	1.208 (30.7)	1.570 (39.9)
21	1.333 (33.9)	1.695 (43.1)
23	1.458 (37.0)	1.800 (45.7)
25	1.583 (40.2)	1.925 (48.9)

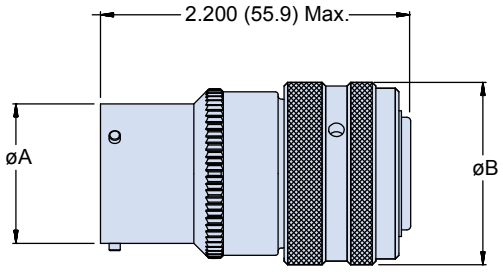
INTERMATEABLE WITH THE FOLLOWING CONNECTORS:
PATT 616 NFC C93-422 (HE308)

B

240-381A FILTER CONNECTOR ADAPTER WITH BAYONET COUPLING

How To Order									
Sample Part Number	**240-381**	**A**	**ME**	**15-35**	**PS**	**P**	**A**	**N**	**U**

Filter Connector	**240-381**
Shell Style	**A** = Connector Adapter
Material and Finish	See Table I
Shell Size - Insert Arrangement	See Table II
Contact Gender	**PS** = Pins, Plug Side **SP** = Sockets, Plug Side; See Note 2
Filter Type	**P** = Pi Circuit **C** = C Circuit; See Note 1
Capacitance	See Table IV
Flange Mounting Style	**N** = Not Applicable
Alternate Key Position	**A**, **B**, **C**, **D**, **N** = Normal, **U** = Universal; See Note 3



Receptacle End **Plug End**

* Please consult the factory for Pin/Pin and/or Socket/Socket contact arrangements.

NOTES

1. Other filter styles (C-L, L-C, Unbalanced Pi, Multi-Stage, Multi-Value) are available, please consult the factory.
2. Please consult the factory for Pin/Pin and/or Socket/Socket contact arrangements.
3. Do not mate Universal key position with another Universal.

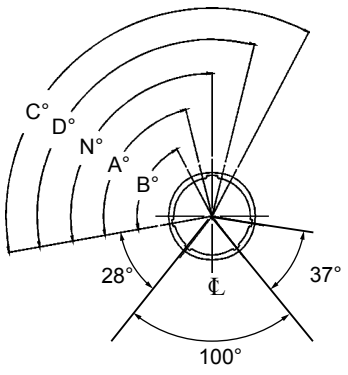
Dimensions		
Shell Size	**Ø A Max**	**Ø B Max**
9	.573 (14.6)	.910 (23.1)
11	.701 (17.8)	1.035 (26.3)
13	.851 (21.6)	1.210 (30.7)
15	.976 (24.8)	1.330 (33.8)
17	1.101 (28.0)	1.455 (37.0)
19	1.208 (30.7)	1.570 (39.9)
21	1.333 (33.9)	1.695 (43.1)
23	1.458 (37.0)	1.800 (45.7)
25	1.583 (40.2)	1.925 (48.9)

Sav-Con® connector savers
MIL-DTL-38999 Series II
Reference Information

Table I: Material and Finish		
Plating Code	**Material**	**Finish**
M	Aluminum	Electroless Nickel
B		Cad Plate, Olive Drab
NF		Cadmium Plate Olive Drab over Electroless Nickel
NC		Zinc-Cobalt
ZN		Olive Drab Zinc-Nickel
MT		Ni-PTFE 1000 Hour Grey™ (Nickel Flourocarbon Polymer)
ZR		Zinc NIckel, Black
ME		Electroless Nickel (RoHS)
ZL	Stainless Steel	Electro-Deposited Nickel

Table II: Insert Arrangement					
Shell Size Desig.	**Insert Arr. Dash No.**	**Contact Size and Quantity**			
		22	**20**	**16**	**12**
8	8-3		3		
	8-35	6			
	8-97	2	2		
	8-98		3		
10	10-5		5		
	10-35	13			
	10-98		6		
	10-99		7		
12	12-3			3	
	12-4			4	
	12-8		8		
	12-35	22			
	12-98		10		
14	14-5			5	
	14-15		14	1	
	14-18		18		
	14-19		19		
	14-35	37			
	14-97		8	4	
16	16-6				6
	16-8			8	
	16-26		26		
	16-42	42			
	16-35	55			
	16-99		21	2	

Table II: Insert Arrangement					
Shell Size Desig.	**Insert Arr. Dash No.**	**Contact Size and Quantity**			
		22	**20**	**16**	**12**
18	18-11			11	
	18-28		26	2	
	18-30		29	1	
	18-32		32		
	18-35	66			
	18-45	67			
	18-96				9
20	20-16			16	
	20-24		24		
	20-25		25		
	20-35	79			
	20-39		37	2	
	20-41		41		
22	22-21			21	
	22-32		32		
	22-34		34		
	22-35	100			
	22-36		36		
	22-53		53		
	22-55		55		
	22-97			16	
	22-99			11	
24	24-4		48	8	
	24-19				19
	24-24			12	12
	24-29			29	
	24-35	128			
	25-61		61		



FACE VIEW
RECEPTACLE

NOTE: MASTER KEY AND KEYWAY HAS VARIOUS POSITIONS WHILE MINOR KEYS AND KEYWAYS REMAIN FIXED

Table III: Main and Alternate Keyway Positions					
Shell Size	**N°**	**A°**	**B°**	**C°**	**D°**
8	100	82	-	-	118
10	100	86	72	128	114
12	100	80	68	132	120
14	100	79	66	134	121
16	100	82	70	130	118
18	100	82	70	130	118
20	100	82	70	130	118
22	100	85	74	126	115
24	100	85	74	125	115

Table IV: Capacitor Array Code Capacitance Range for Filtered Connectors		
Class	**Pi - Circuit (pF)**	**C - Circuit (pF)**
X*	160,000 - 240,000	80,000 - 120,000
Y*	80,000 - 120,000	40,000 - 60,000
Z*	60,000 - 90,000	30,000 - 45,000
A	38,000 - 56,000	19,000 - 28,000
B	32,000 - 45,000	16,000 - 22,500
C	18,000 - 33,000	9,000 - 16,500
D	8,000 - 12,000	4,000 - 6,000
E	3,300 - 5,000	1,650 - 2,500
F	800 - 1,300	400 - 650
G	400 - 600	200 - 300
J	70-120	35-60

* Filter Classes X, Y and Z are 250 VDC. All others are 500 VDC

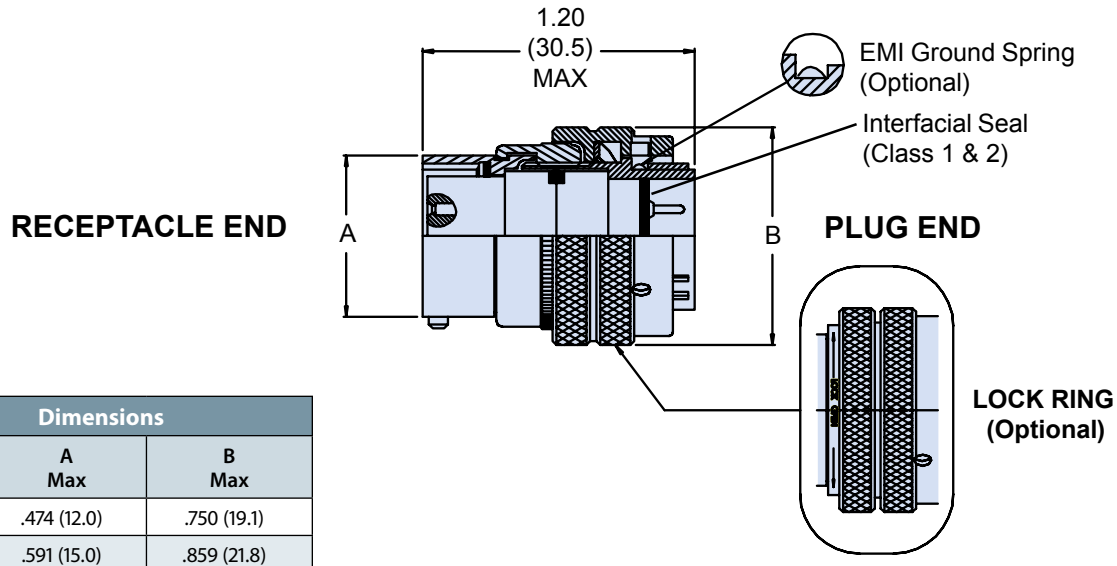
B

940-004 GENERAL DUTY, 941-004 ENVIRONMENTAL AND 942-004 HIGH RELIABILITY

How To Order												
Sample Part Number	**94**	**0**	**L**	**004**	**M**	**16**	**G**	**35**	**P**	**A**	**131**

Series	**94**
Class	**0** = General Duty **1** = Environmental **2** = High Reliability
Lock Ring (optional)	**L** = Lock Ring **–** (dash) = Standard
Basic Number	**004**
Finish	See Table I
Shell Size	**8**, **10**, **12**, **14**, **16**, **18**, **20**, **22**, **24**
EMI Ground	**G** = EMI Ground Spring (optional) – = Standard
Insert Arrangement	See Table II
Contact Type	**P** = Pins, Plug Side **S** = Sockets, Plug Side
Alternate Key Position	**A**, **B**, **C**, **D**, **N** = Normal; See Table III
Mod Code*	**131** = Dry Lube, Omit for None

*Add Modification Code 131 for Dry Lubricant on inside surfaces of the Coupling Nut. May not be suitable for space applications.



Dimensions		
Shell Size	**A Max**	**B Max**
08	.474 (12.0)	.750 (19.1)
10	.591 (15.0)	.859 (21.8)
12	.751 (19.1)	1.031 (26.2)
14	.875 (22.2)	1.156 (29.4)
16	1.001 (25.4)	1.281 (32.5)
18	1.126 (28.6)	1.391 (35.3)
20	1.251 (31.8)	1.531 (38.9)
22	1.376 (35.0)	1.656 (42.1)
24	1.501 (38.1)	1.777 (45.1)

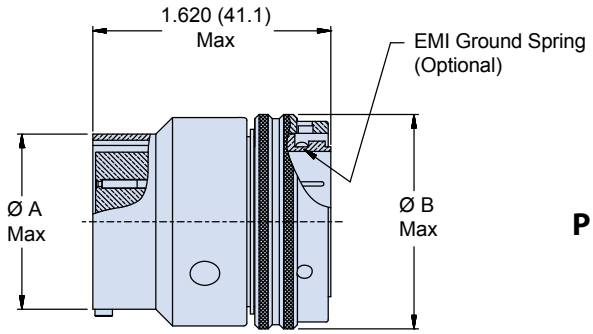
INTERMATEABLE WITH THE FOLLOWING CONNECTORS:
40M38277
PAN 6433-1
NFC C93-422 (HE309)

240-382A FILTER CONNECTOR ADAPTER WITH BAYONET COUPLING

How To Order										
Sample Part Number		**240-382**	**A**	**ME**	**14-35**	**PS**	**P**	**A**	**N**	**U**
Filter Connector	**240-382**									
Shell Style	**A** = Connector Adapter									
Connector Class	See Table I									
Shell Size - Insert Arrangement	See Table II									
Contact Gender	**PS** = Pins, Plug Side **SP** = Sockets, Plug Side (See Note 2)									
Filter Type	**P** = Pi Circuit **C** = C Circuit (See Note 1)									
Capacitance	See Table IV									
Flange Mounting Style	**N** = Not Applicable									
Alternate Key Position	**A, B, C, D, N** = Normal, **U** = Universal; See Note 3									

B

RECEPTACLE END



PLUG END

NOTES

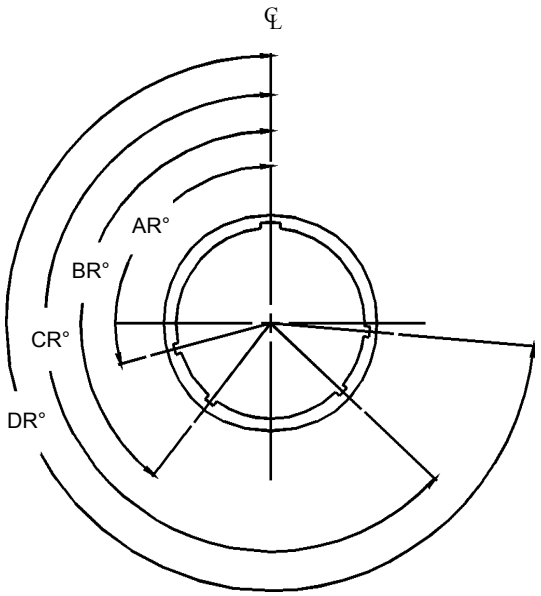
1. Other filter styles (C-L, L-C, Unbalanced Pi, Multi-Stage, Multi-Value) are available, please consult the factory.
2. Please consult the factory for Pin/Pin and/or Socket/Socket contact arrangements.
3. Do not mate Universal key position with another Universal

Dimensions		
Shell Size	**Ø A Max**	**Ø B Max**
8	.474 (12.0)	.784 (19.9)
10	.591 (15.0)	.894 (22.7)
12	.751 (19.1)	1.031 (26.2)
14	.876 (22.3)	1.156 (29.4)
16	1.001 (25.4)	1.281 (32.5)
18	1.126 (28.6)	1.406 (35.7)
20	1.251 (31.8)	1.531 (38.9)
22	1.376 (35.0)	1.641 (41.7)
24	1.501 (38.1)	1.766 (44.8)

B

Table I: Material and Finish		
Plating Code	**Material**	**Finish**
M	Aluminum	Electroless Nickel
B		Cad Plate, Olive Drab
NF		Cadmium Plate Olive Drab over Electroless Nickel
NC		Zinc-Cobalt
ZN		Olive Drab Zinc-Nickel
MT		Ni-PTFE 1000 Hour Grey™ (Nickel Flourocarbon Polymer)
ZR		Zinc NIckel, Black
ME		Electroless Nickel (RoHS)
ZL	Stainless Steel	Electro-Deposited Nickel

Table III: Manin and Alternate Keyway Positions						
Shell Size Code Ref	**Shell Size**	**Alt. Keyway Code**	**AR°**	**BR°**	**CR°**	**DR°**
A	**9**	N	105	140	215	265
		A	102	132	248	320
		B	80	118	230	312
		C	35	140	205	275
		D	64	155	234	304
		E	91	131	197	240
B	**11**	N	95	141	208	236
		A	113	156	182	292
C	**13**	B	90	145	195	252
		C	53	156	220	255
D	**15**	D	119	146	176	298
		E	51	141	184	242
E	**17**	N	80	142	196	293
		A	135	170	200	310
		B	49	169	200	244
F	**19**	C	66	140	200	257
		D	62	145	180	280
		E	79	153	197	272
G	**21**	N	80	142	196	293
		A	135	170	200	310
H	**23**	B	49	169	200	244
		C	66	140	200	257
J	**25**	D	62	145	180	280
		E	79	153	197	272



FACE VIEW
RECEPTACLE INSERT

Table II: Shell Size - Insert Arrangement						
Shell Size Code	Shell Size Ref.	Insert Arr. Dash No.	Contact Size			
			22	20	16	12
A	9	9-3		3		
		9-35	6			
		9-44	4			
		9-98		3		
B	11	11-2			2	
		11-4		4		
		11-5		5		
		11-6		6		
		11-35	13			
		11-98		6		
		11-99		7		
C	13	13-4			4	
		13-8		8		
		13-35	22			
		13-98		10		
D	15	15-5			5	
		15-15		14	1	
		15-18		18		
		15-19		19		
		15-35	37			
		15-97		8	4	
E	17	17-6				6
		17-8			8	
		17-26		26		
		17-35	55			
		17-99		21	2	
F	19	19-11			11	
		19-28		26	2	
		19-30		29	1	
		19-32		32		
		19-35	66			
		19-45	67			

Table II: Shell Size - Insert Arrangement						
Shell Size Code	Shell Size Ref.	Insert Arr. Dash No.	Contact Size			
			22	20	16	12
G	21	21-35	79			
		21-11				11
		21-16			16	
		21-24		24		
		21-25		25		
		21-27		27		
		21-39		37	2	
		21-41		41		
H	23	23-35	100			
		23-2	85			
		23-21			21	
		23-32		32		
		23-34		34		
		23-36		36		
		23-53		53		
		23-55		55		
		23-97			16	
		23-99			11	
J	25	25-2	100			
		25-4		48	8	
		25-19				19
		25-24			12	12
		25-29			29	
		25-35	128			
		25-43		23	20	
		25-61		61		

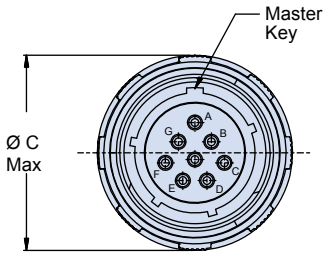
Table IV: Capacitor Array Code Capacitance Range for Filtered Connectors		
Class	Pi - Circuit (pF)	C - Circuit (pF)
X*	160,000 - 240,000	80,000 - 120,000
Y*	80,000 - 120,000	40,000 - 60,000
Z*	60,000 - 90,000	30,000 - 45,000
A	38,000 - 56,000	19,000 - 28,000
B	32,000 - 45,000	16,000 - 22,500
C	18,000 - 33,000	9,000 - 16,500
D	8,000 - 12,000	4,000 - 6,000
E	3,300 - 5,000	1,650 - 2,500
F	800 - 1,300	400 - 650
G	400 - 600	200 - 300
J	70-120	35-60

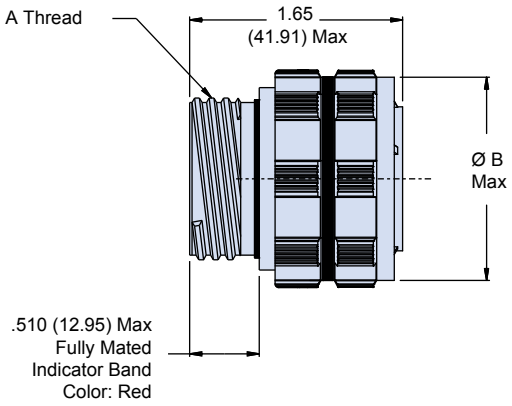
* Filter Classes X, Y and Z are 250 VDC.
All others are 500 VDC

233-213 HIGH RELIABILITY WITH THREADED COUPLING

How To Order							
Sample Part Number	**233-213**	**-NF**	**17-8**	**P**	**N**	**S**	**N**

Series / Basic Part No.	**233-213**
Finish	**NF** = Cadmium Olive Drab **ME** = Electroless Nickel **MT** = Nickel PTFE **ZR** = Black Zinc Nickel See Table I for Additional Finishes
Shell Size - Insert Arrangement	See Table II
Contact Style (Plug Side)	**P** = Pin, gold, 500 cyles **S** = Socket, gold, 500 cycles See Notes 3 and 4
Alternate Polarization (Plug Side)	**A**, **B**, **C**, **D**, **E**, **N** = Normal, **U** = Universal; See Table III, See Note 6
Contact Style (Receptacle Side)	**P** = Pin, gold, 500 cyles **S** = Socket, gold, 500 cycles See Notes 3 and 4
Alternate Polarization (Receptacle Side)	**A**, **B**, **C**, **D**, **E**, **N** = Normal, **U** = Universal; See Table III , See Note 6





Dimensions						
Shell Size Code	**Shell Size**	**A Thread**	**Ø B Max**		**Ø C Max**	
			In	**mm**	**In**	**mm**
A	**9**	.6250 – 0.1P – 0.3L – TS-2A	0.811	20.60	0.858	21.79
B	**11**	.7500 – 0.1P – 0.3L – TS-2A	0.929	23.60	0.984	24.99
C	**13**	.8750 – 0.1P – 0.3L – TS-2A	1.110	28.19	1.157	29.39
D	**15**	1.0000 – 0.1P – 0.3L – TS-2A	1.232	31.29	1.280	32.51
E	**17**	1.1875 – 0.1P – 0.3L – TS-2A	1.358	34.49	1.406	35.71
F	**19**	1.2500 – 0.1P – 0.3L – TS-2A	1.469	37.31	1.516	38.51
G	**21**	1.3750 – 0.1P – 0.3L – TS-2A	1.594	40.49	1.642	41.71
H	**23**	1.5000 – 0.1P – 0.3L – TS-2A	1.720	43.69	1.768	44.91
J	**25**	1.6250 – 0.1P – 0.3L – TS-2A	1.843	46.81	1.890	48.01

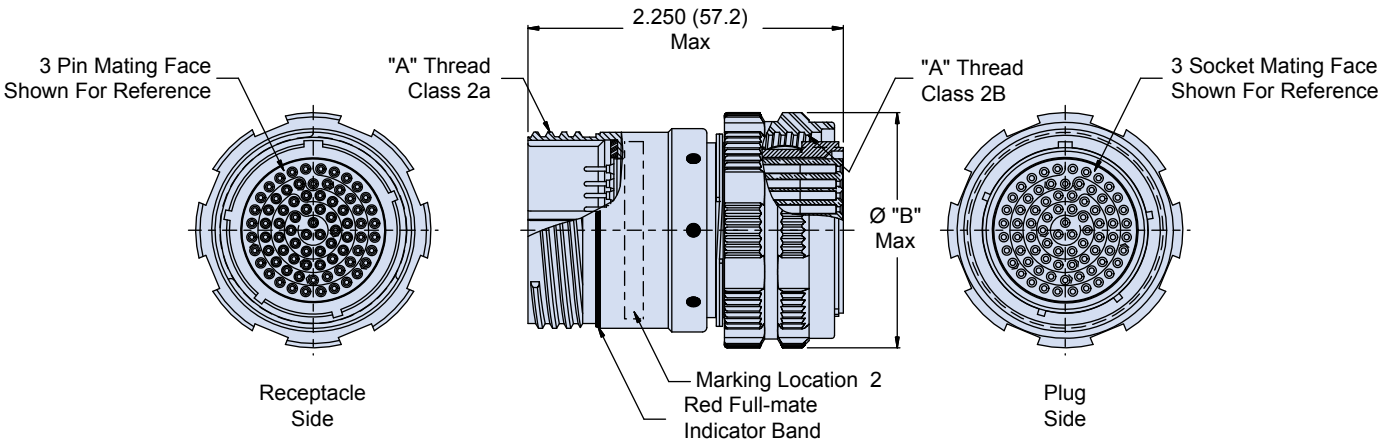
NOTES

1. Glenair's 233-213 connector savers are designed to meet or exceed the mechanical dimensional, electrical, and environmentsl, requirements of MIL-DTL-38999, D38999/20, D38999/26, and MIL-STD-1560 except as shown and /or noted.
2. Glenair connector savers mate with any QPL manufacturer's MIL-DTL-38999, series III plugs and receptacles that have the same shell size, insert arrangement, and polarization.
3. For pin/pin and socket/socket, symmetrical insert layouts only.
4. Power to a given contact on one end will result in power to a contact directly opposite, regardless of identification letter.
5. Electrical safety limits must be established by user. Peak voltage, switching surge, transient, etc. should be used to determine the safety application.
6. Alternate polarization 'U' (universal) is a non-standard/non-mill-spec option intened for test lab use only which allows for mating to any QPL manufacturer's MIL-DTL-38999, series III connector having the same shell size, insert arrangement, and mating contact size.

Sav-Con® connector savers
MIL-DTL-38999 Series III
240-383B SuperNine® Threaded Coupling

240-383B HIGH RELIABILITY FILTER CONNECTOR ADAPTER WITH THREADED COUPLING

How To Order									
Sample Part Number	**240-383**	**B**	**ME**	**15-35**	**PS**	**P**	**A**	**N**	**N**
Filter Connector	**240-383**								
Shell Style	**B** = Connector Adapter								
Finish	See Table I								
Insert Arrangement	See Table II								
Contact Gender	**PS** = Pins, Plug Side **SP** = Sockets, Plug Side								
Filter Type	**P** = Pi Circuit **C** = C Circuit (See Note 1)								
Capacitance	See Capacitor Array Code Table								
Flange Mounting Style	**N** = Not Applicable								
Alternate Key Position	**A**, **B**, **C**, **D**, **E**, **N** = Normal, **U** = Universal; See Table III, See Note 3								



Consult Factory for Additional Filter Types, TVS Diodes, and other Custom Configurations.

NOTES

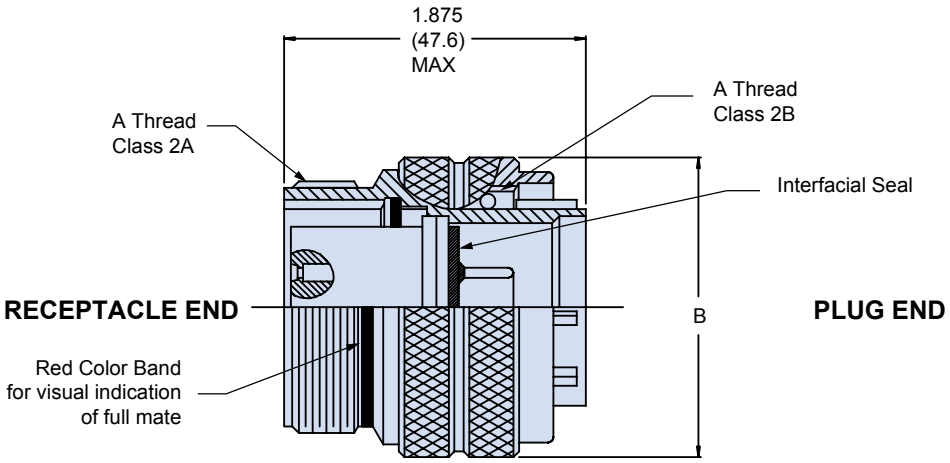
1. Other filter styles (C-L, L-C, Unbalanced Pi, Multi-Stage, Multi-Value) are available, please consult the factory.
2. Please consult the factory for Pin/Pin and/or Socket/Socket contact arrangements
3. Do not mate Universal key position with another Universal

Dimensions		
Shell Size	**A Thread Class 2**	**Ø B Max**
9	.6250- .1P- .3L-TS	.858 (21.8)
11	.7500- .1P- .3L-TS	.984 (25.0)
13	.8750- .1P- .3L-TS	1.157 (29.4)
15	1.000- .1P- .3L-TS	1.280 (32.5)
17	1.1875- .1P- .3L-TS	1.406 (35.7)
19	1.2500- .1P- .3L-TS	1.516 (38.5)
21	1.3750- .1P- .3L-TS	1.642 (41.7)
23	1.5000- .1P- .3L-TS	1.768 (44.9)
25	1.6250- .1P- .3L-TS	1.890 (48.0)

941-005 ENVIRONMENTAL AND 942-005 HIGH RELIABILITY THREADED COUPLING

How To Order								
Sample Part Number	**94**	**1**	**-005**	**NF**	**B**	**98**	**P**	**A**

Series	**94**
Class	**1** = Environmental **2** = High Reliability
Basic Number	**005**
Finish	See Table I
Shell Size	**A**, **B**, **C**, **D**, **E**, **F**, **G**, **H**, **J** See Table II or Dimensions Table
Insert Arrangement	See Table II
Contact Type	**P** = Pins, Plug Side **S** = Sockets, Plug Side
Alternate Key Position	**A**, **B**, **C**, **D**, **E**, **N** = Normal; See Table III



Dimensions			
Shell Size Ref	**Shell Size**	**A Thread Class 2**	**B Max**
A	**9**	.6250 – 0.1P – 0.3L – TS-2	.858 (21.82)
B	**11**	.7500 – 0.1P – 0.3L – TS-2	.984 (24.61)
C	**13**	.8750 – 0.1P – 0.3L – TS-2	1.157 (28.98)
D	**15**	1.0000 – 0.1P – 0.3L – TS-2	1.280 (32.16)
E	**17**	1.1875 – 0.1P – 0.3L – TS-2	1.406 (35.33)
F	**19**	1.2500 – 0.1P – 0.3L – TS-2	1.516 (38.10)
G	**21**	1.3750 – 0.1P – 0.3L – TS-2	1.642 (41.28)
H	**23**	1.5000 – 0.1P – 0.3L – TS-2	1.768 (44.45)
J	**25**	1.6250 – 0.1P – 0.3L – TS-2	1.890 (47.63)

240-383A FILTER CONNECTOR ADAPTER WITH THREADED COUPLING

How To Order									
Sample Part Number	**240-383**	**A**	**ME**	**15-35**	**PS**	**P**	**A**	**N**	**N**
Filter Connector	**240-383**								
Shell Style	**A** = Connector Adapter								
Connector Class	See Table I								
Shell Size - Insert Arrangement	See Table II								
Contact Gender	**PS** = Pins, Plug Side **SP** = Sockets, Plug Side (See Note 2)								
Filter Type	**P** = Pi Circuit **C** = C Circuit (See Note 1)								
Capacitance	See Table IV								
Flange Mounting Style	**N** = Not Applicable								
Alternate Key Position	**A, B, C, D, E, N** = Normal, **U** = Universal; See Table III, See Note 3								

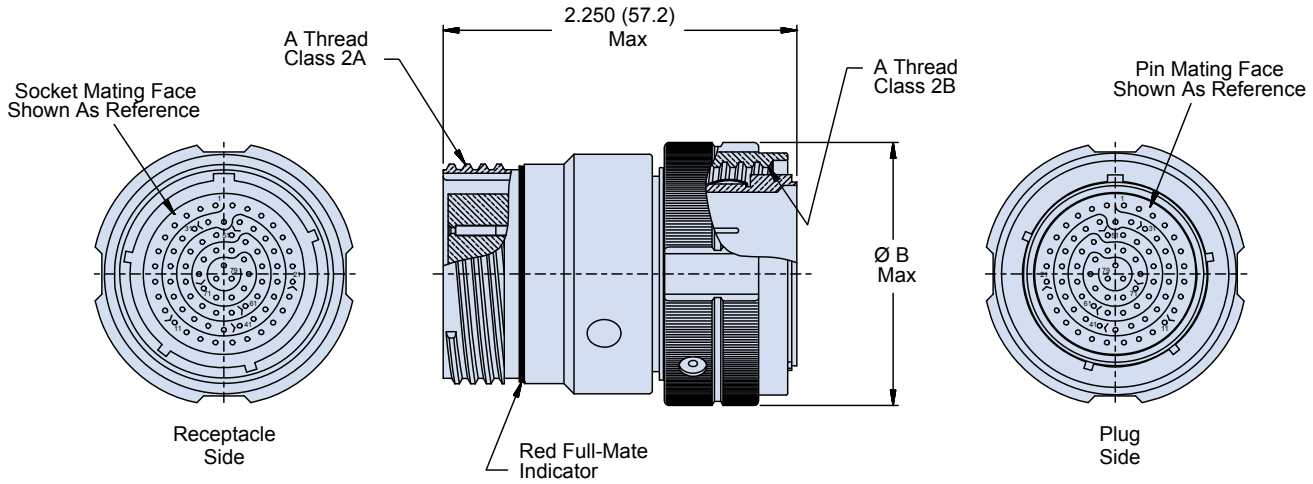


Table III: Dimensions		
Shell Size	**A Thread Class 2**	**Ø B Max**
9	.6250- .1P- .3L-TS	.858 (21.8)
11	.7500- .1P- .3L-TS	.984 (25.0)
13	.8750- .1P- .3L-TS	1.157 (29.4)
15	1.000- .1P- .3L-TS	1.280 (32.5)
17	1.1875- .1P- .3L-TS	1.406 (35.7)
19	1.2500- .1P- .3L-TS	1.516 (38.5)
21	1.3750- .1P- .3L-TS	1.642 (41.7)
23	1.5000- .1P- .3L-TS	1.768 (44.9)
25	1.6250- .1P- .3L-TS	1.890 (48.0)

NOTES

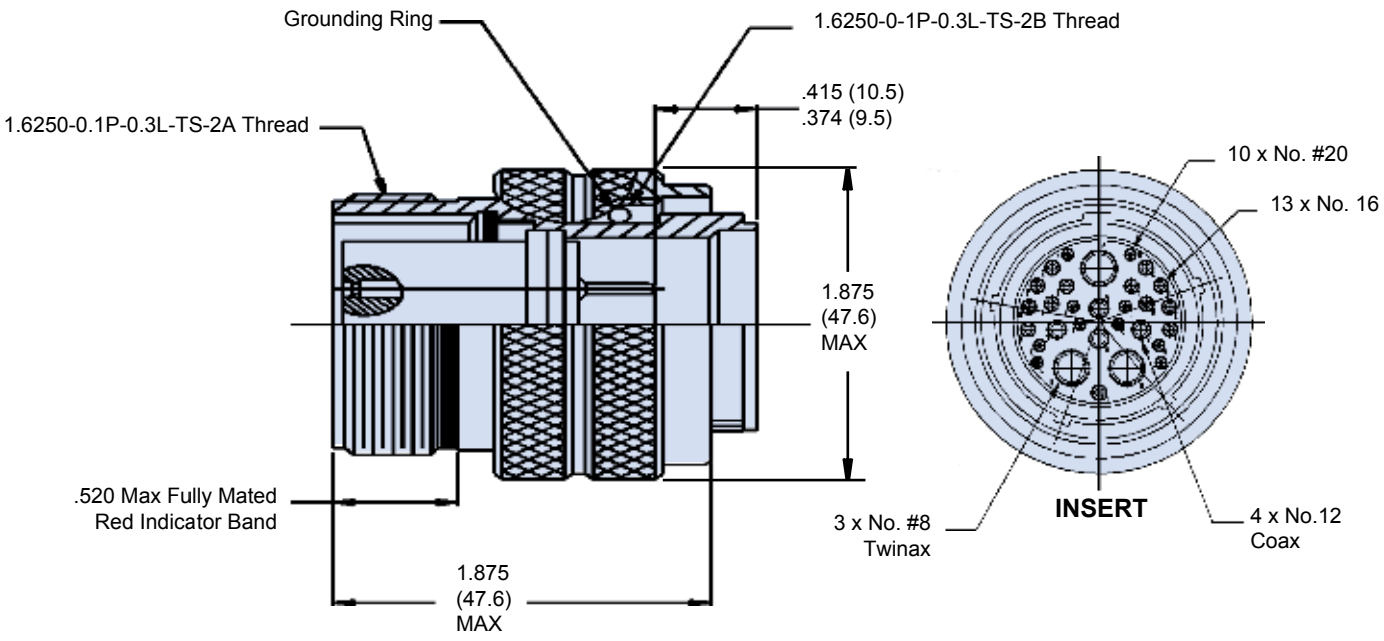
1. Other filter styles (C-L, L-C, Unbalanced Pi, Multi-Stage, Multi-Value) are available, please consult the factory.
2. Please consult the factory for Pin/Pin and/or Socket/Socket contact arrangements
3. Do not mate Universal key position with another Universal

Sav-Con® Connector Savers
MIL-DTL-38999 Series III, shell size 25
941-021 and 942-021 Threaded Coupling

941-021 ENVIRONMENTAL AND 942-021 HIGH RELIABILITY WITH THREADED COUPLING

How To Order									
Sample Part Number	**94**	**1**	**-021**	**NF**	**25**	**20**	**P**	**A**	**X**

Series	**94**
Class	**1** = Environmental **2** = High Reliability
Basic Number	**021**
Finish	See Table I
Shell Size	**25**
Insert Arrangement	**20**; See Table II
Contact Type	**P** = Pins, Plug Side **S** = Sockets, Plug Side
Alternate Key Position	**A, B, C, D, E, N** = Normal; See Table III
Fiber Optic	**X** = If using Fiber Optics in Channels U and Y (Supplied without electrical contacts in these cavities). Omit for Non-Fiber Use



Design Features:

- Incorporates all MIL-STD-D38999 Series III Design Features
- Intermateable with D38999/20, /24 and /31 Connectors
- Insert Arrangement 25-20 Compatible with MIL-STD-1553 Aircraft Multiplex Data Bus

25-20 Insert Arrangement							
Shell Size Code	**Shell Size**	**Insert Arrangement Dash No.**	**Total Number Of Contacts**	**Contact Size**			
				20	16	12 (Coax)	8 (Twinax)
J	25	25-20	30	Quantity			
				10	13	4	3

Sav-Con® connector savers
MIL-DTL-83723 Series III
Reference Information

Table I: Material and Finish

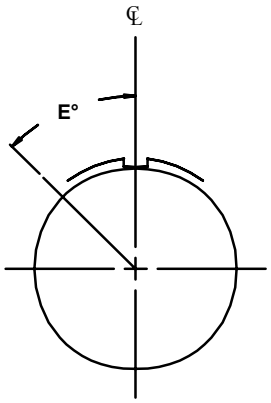
Plating Code	Material	Finish
M	Aluminum	Electroless Nickel
B		Cad Plate, Olive Drab
NF		Cadmium Plate Olive Drab over Electroless Nickel
NC		Zinc-Cobalt
ZN		Olive Drab Zinc-Nickel
MT		Ni-PTFE 1000 Hour Grey™ (Nickel Flourocarbon Polymer)
ZR		Zinc NIckel, Black
ME		Electroless Nickel (RoHS)
ZL	Stainless Steel	Electro-Deposited Nickel

Table II: Insert Arrangement

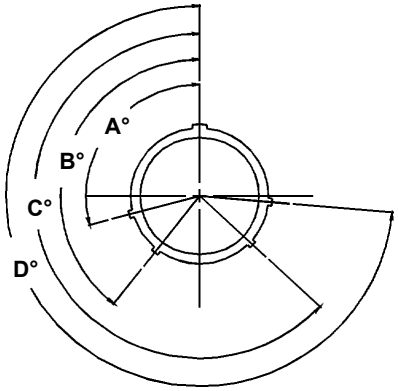
Shell Size Desig.	Insert Arrangement Dash No.	Contact Size: Quantity 20	16	12
08	8-2	2		
	8-3	3		
	8-98	3		
10	10-2	2		
	10-5	5		
	10-6	6		
	10-20	2		
12	12-3		3	
	12-12	12		
14	14-4			4
	14-7		7	
	14-12	9	3	
	14-15	15		
16	16-10		10	
	16-24	24		

Table II: Insert Arrangement

Shell Size Desig.	Insert Arrangement Dash No.	Contact Size: Quantity 20	16	12
18	18-8			8
	18-14		14	
	18-31	31		
20	20-16		16	
	20-25	19		6
	20-28	24		4
	20-39	37	2	
	20-41	41		
22	22-12			12
	22-19		19	
	22-32	26		6
	22-39	27	12	
	22-55	55		
24	24-19			19
	24-43	23	20	
	24-57	55		2
	24-61	61		



ROTATED PIN INSERT
POSITION 1 THRU 5



FACE VIEW RECEPTACLE
POSITION N, 6 THRU 10

Table III: Alternate Keway Positions

Alternate Key Position	Size 8 A°	B°	C°	D°	Size 10 A°	B°	C°	D°	Sizes 12 – 24 A°	B°	C°	D°	Insert Position E°
N = Normal	105	140	210	265	105	140	215	265	105	140	215	265	0
1	-	-	-	-	105	140	215	265	105	140	215	265	10
2	-	-	-	-	105	140	215	265	105	140	215	265	20
3	-	-	-	-	105	140	215	265	105	140	215	265	30
4	-	-	-	-	105	140	215	265	105	140	215	265	40
5	-	-	-	-	105	140	215	265	105	140	215	265	50
6	102	132	248	320	102	132	248	320	18	149	192	259	0
7	80	118	230	312	80	118	230	312	92	152	222	342	0
8	35	140	205	275	35	140	205	275	84	152	204	334	0
9	64	155	234	304	64	155	234	304	24	135	199	240	0
10	-	-	-	-	25	115	220	270	98	152	268	336	0

In alternate positions, the pin insert rotates clockwise while the socket insert rotates counterclockwise the same number of degrees relative to the center line of the master key or keyway.

Table IV: Capacitor Array Code Capacitance Range

Class	Pi - Circuit (pF)	C - Circuit (pF)
X*	160,000 - 240,000	80,000 - 120,000
Y*	80,000 - 120,000	40,000 - 60,000
Z*	60,000 - 90,000	30,000 - 45,000
A	38,000 - 56,000	19,000 - 28,000
B	32,000 - 45,000	16,000 - 22,500
C	18,000 - 33,000	9,000 - 16,500

Table IV: Capacitor Array Code Capacitance Range

Class	Pi - Circuit (pF)	C - Circuit (pF)
D	8,000 - 12,000	4,000 - 6,000
E	3,300 - 5,000	1,650 - 2,500
F	800 - 1,300	400 - 650
G	400 - 600	200 - 300
J	70-120	35-60

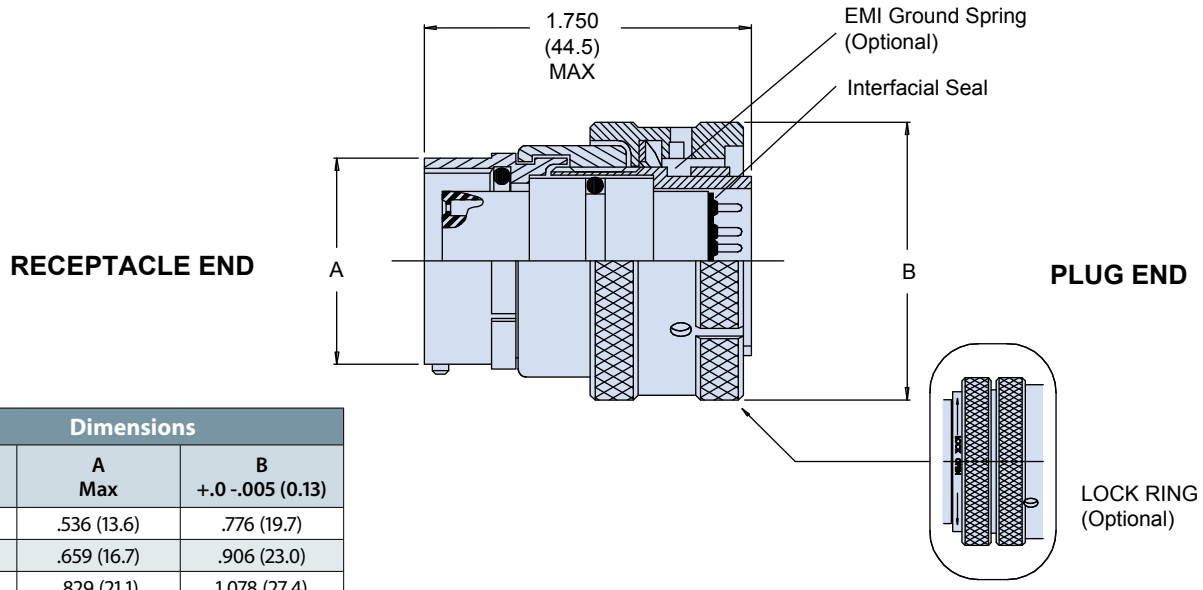
* Filter Classes X, Y and Z are 250 VDC. All others are 500 VDC

B

940-006 GENERAL DUTY, 941-006 ENVIRONMENTAL AND 942-006 HIGH RELIABILITY

How To Order												
Sample Part Number	**94**	**0**	**L**	**006**	**M**	**16**	**G**	**24**	**P**	**N**	**131**
Series	**94**											
Class	**0** = General Duty **1** = Environmental **2** = High Reliability											
Lock Ring (optional)	**L** = Lock Ring **–** (dash) = Standard											
Basic Number	**006**											
Finish	See Table I											
Shell Size	See Table II											
EMI Ground	**G** = EMI Ground Spring (optional) **–** = Standard											
Insert Arrangement	See Table II											
Contact Type	**P** = Pins, Plug Side **S** = Sockets, Plug Side											
Alternate Key Position	**1** through **10**, **N** = Normal; See Table III											
Mod Code	**131** = Dry Lube (Omit for None)											

*Add Modification Code 131 for Dry Lubricant on inside surfaces of the Coupling Nut. May not be suitable for space applications.

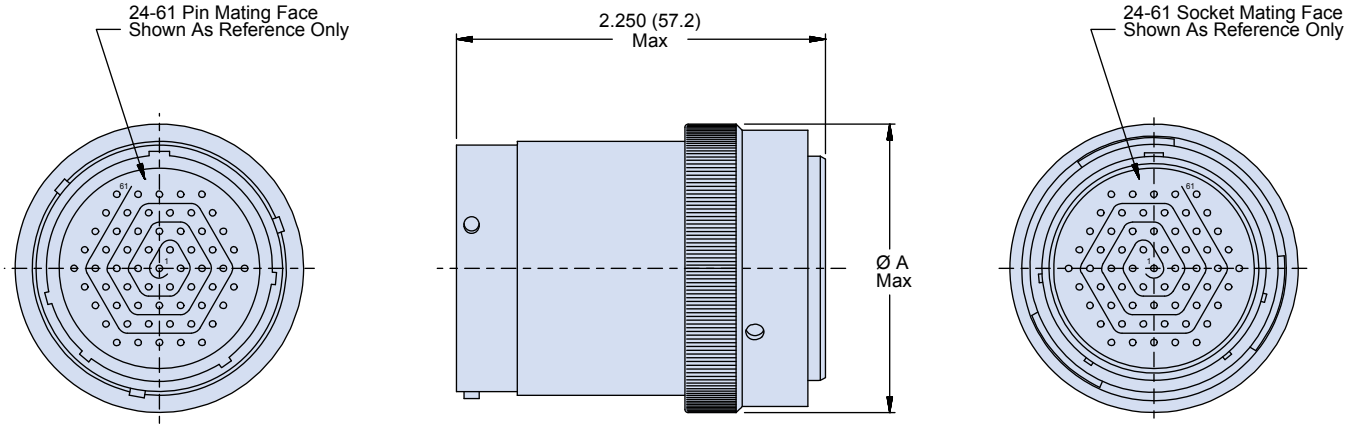


Dimensions		
Shell Size	**A Max**	**B +.0 -.005 (0.13)**
08	.536 (13.6)	.776 (19.7)
10	.659 (16.7)	.906 (23.0)
12	.829 (21.1)	1.078 (27.4)
14	.898 (22.8)	1.141 (29.0)
16	1.025 (26.0)	1.266 (32.2)
18	1.131 (28.7)	1.375 (34.9)
20	1.256 (31.9)	1.510 (38.4)
22	1.381 (35.1)	1.625 (41.3)
24	1.506 (38.3)	1.760 (44.7)

INTERMATEABLE WITH THE FOLLOWING CONNECTORS:
PAN 6433-2 PATT 615 NFC C93-422 (HE306) VG 96912

240-838A FILTER CONNECTOR ADAPTER WITH BAYONET COUPLING

How To Order									
Sample Part Number	**240-838**	**A**	**ME**	**24-61**	**PS**	**P**	**A**	**N**	**N**
Filter Connector	**240-838**								
Shell Style	**A** = Bayonet Coupling								
Finish	See Table I								
Insert Arrangement	See Table II								
Contact Gender	**PS** = Pins, Plug Side **SP** = Sockets, Plug Side (See Note 2)								
Filter Type	**P** = Pi Circuit **C** = C Circuit (See Note 1)								
Capacitance	See Table IV								
Flange Mounting Style	**N** = Not Applicable								
Alternate Insert Position	**1**, **2**, **3**, **4**, **5**, **6**, **7**, **8**, **9**, **Y**, **N** = Normal; See Table III								



Dimensions	
Shell Size	**Ø A Max**
8	.776 (19.7)
10	.906 (23.0)
12	1.708 (43.4)
14	1.141 (29.0)
16	1.266 (32.2)
18	1.375 (34.9)
20	1.510 (38.4)
22	1.625 (41.3)
24	1.760 (44.7)

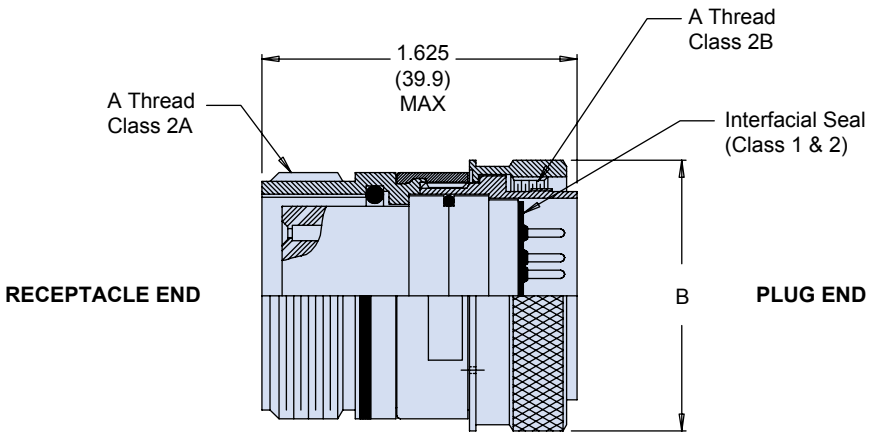
NOTES

1. Other filter styles (C-L, L-C, Unbalanced Pi, Multi-Stage, Multi-Value) are available, please consult the factory.
2. Please consult the factory for Pin/Pin and/or Socket/Socket contact arangements.

940-007 GENERAL DUTY, 941-007 ENVIRONMENTAL AND 942-007 HIGH RELIABILITY

How To Order							
Sample Part Number	**94**	**0**	**-007**	**M**	**16-24**	**P**	**N**

Series	**94**
Class	**0** = General Duty **1** = Environmental **2** = High Reliability
Basic Number	**007**
Finish	See Table I
Shell Size - Insert Arrangement	See Table II
Contact Type	**P** = Pins, Plug Side **S** = Sockets, Plug Side
Alternate Key Position	**1** through **10**, **N** = Normal; See Table III



Dimensions		
Shell Size	**A Thread**	**B Dia +.0 -.005 (0.13)**
08	9/16 - 24 UNEF-2	.776 (19.7)
10	11/16 - 24 UNEF-2	.906 (23.0)
12	7/8 - 24 UNEF-2	1.078 (27.4)
14	15/16 - 24 UNEF-2	1.141 (29.0)
16	1-1/16 - 18 UNEF-2	1.266 (32.2)
18	1-3/16 - 18 UNEF-2	1.375 (34.9)
20	1-5/16 - 18 UNEF-2	1.510 (38.4)
22	1 7/16 - 18 UNEF-2	1.625 (41.3)
24	1-9/16 - 18 UNEF-2	1.760 (44.7)

240-837A FILTERED CONNECTOR ADAPTER WITH THREADED COUPLING

How To Order									
Sample Part Number	**240-837**	**A**	**ME**	**24-61**	**PS**	**P**	**A**	**N**	**N**
Filter Connector	**240-837**								
Shell Style	**A** = Connector Adapter								
Finish	See Table I								
Shell Size - Insert Arrangement	See Table II								
Contact Gender	**PS** = Pins, Plug Side **SP** = Sockets, Plug Side (See Note 2)								
Filter Type	**P** = Pi Circuit **C** = C Circuit (See Note 1)								
Capacitance	See Table IV								
Flange Mounting Style	**N** = Not Applicable								
Alternate Insert Position	**1**, **2**, **3**, **4**, **5**, **6**, **7**, **8**, **9**, **Y**, **N** = Normal (See Table III)								

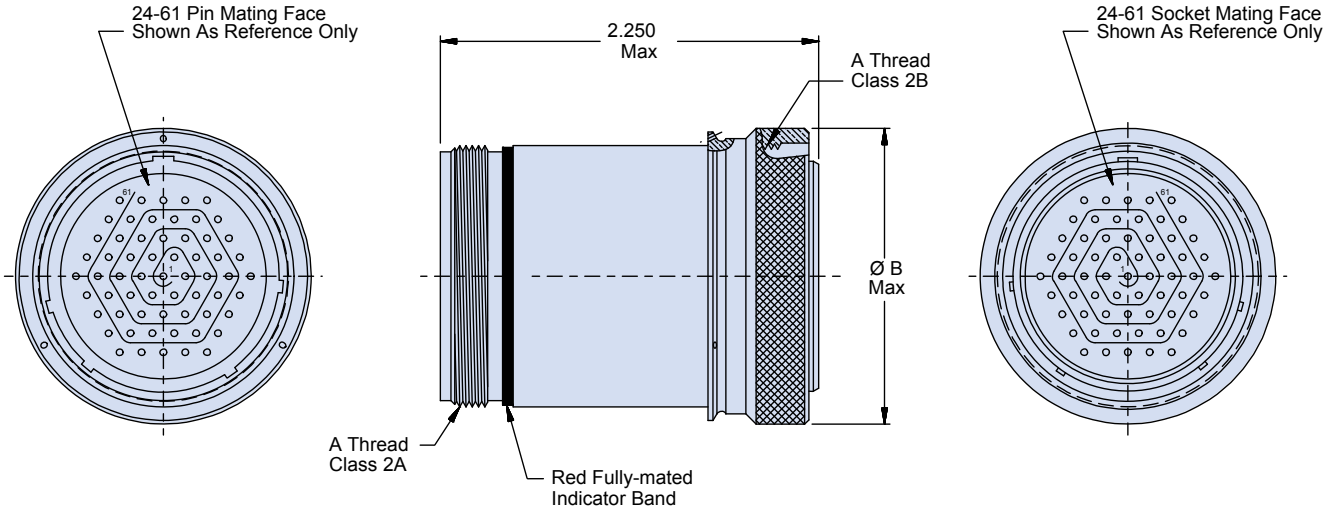


TABLE III: Dimensions		
Shell Size	**A Thread**	**Ø B**
8	.562-24 UNEF	.776 (19.7)
10	.688-24 UNEF	.906 (23.0)
12	.875-20 UNEF	1.078 (27.4)
14	.938-20 UNEF	1.141 (29.0)
16	1.062-18 UNEF	1.266 (32.2)
18	1.188-18 UNEF	1.375 (34.9)
20	1.312-18 UNEF	1.510 (38.4)
22	1.438-18 UNEF	1.625 (41.3)
24	1.562-18 UNEF	1.760 (44.7)

NOTES

1. Other filter styles (C-L, L-C, Unbalanced Pi, Multi-Stage, Multi-Value) are available, please consult the factory.
2. Please consult the factory for Pin/Pin and/or Socket/Socket contact arrangements.

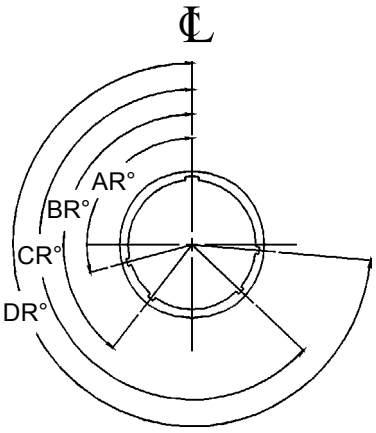
Sav-Con® connector savers
MIL-DTL-28840
Reference Information

Table I: Material and Finish

Plating Code	Material	Finish
M	Aluminum	Electroless Nickel
B		Cad Plate, Olive Drab
NF		Cadmium Plate Olive Drab over Electroless Nickel
NC		Zinc-Cobalt
ZN		Olive Drab Zinc-Nickel
MT		Ni-PTFE 1000 Hour Grey™ (Nickel Flourocarbon Polymer)
ZR		Zinc NIckel, Black
ME		Electroless Nickel (RoHS)
ZL	Stainless Steel	Electro-Deposited Nickel

Table II: Shell Size and Insert Arrangements

Shell Size Desig.	Shell Size Ref	Insert Arrangement Dash No.	Contact Size 20: Quantity
A	11	A-1	7
B	13	B-1	12
C	15	C-1	21
D	17	D-1	31
E	19	E-1	42
F	23	F-1	64
G	25	G-1	92
H	29	H-1	121
J	33	J-1	155



FACE VIEW
PIN INSERT

Table III: Alternate Keyway Positions

Shell Size Desig.	Shell Size Ref	Key and Keyway Arr.	AR°	BR°	CR°	DR°
A B	11 13	1	95	141	208	236
		2	113	156	182	292
		3	90	145	195	252
		4	53	156	220	255
		5	119	146	176	298
		6	51	141	184	242
C D	15 17	1	80	142	196	293
		2	135	170	200	310
		3	49	169	200	244
		4	66	140	200	257
		5	62	145	180	280
		6	79	153	197	272
E F G H J	19 23 25 29 33	1	80	142	196	293
		2	135	170	200	310
		3	49	169	200	244
		4	66	140	200	257
		5	62	145	180	280
		6	79	153	197	272

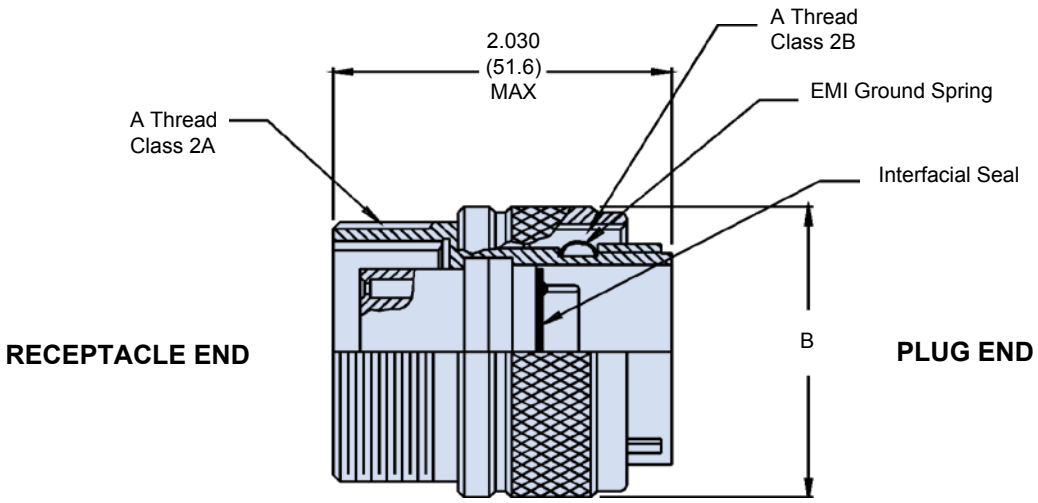
Table IV: Capacitor Array Code Capacitance Range for Filtered Connectors

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

* Filter Classes X, Y and Z are 250 VDC. All others are 500 VDC

941-002 ENVIRONMENTAL CONNECTOR WITH THREADED COUPLING

How To Order								
Sample Part Number	**94**	**1**	**-002**	**NF**	**-F**	**1**	**P**	**5**
Series	**94**							
Class	**1** = Environmental							
Basic Number	**002**							
Finish	See Table I							
Shell Size	See Table II							
Insert Arrangement	See Table II							
Contact Type	**P** = Pins, Plug Side **S** = Sockets, Plug Side							
Alternate Key Position	**1**, **2**, **3**, **4**, **5**, **6**, **N** = Normal; See Table III							

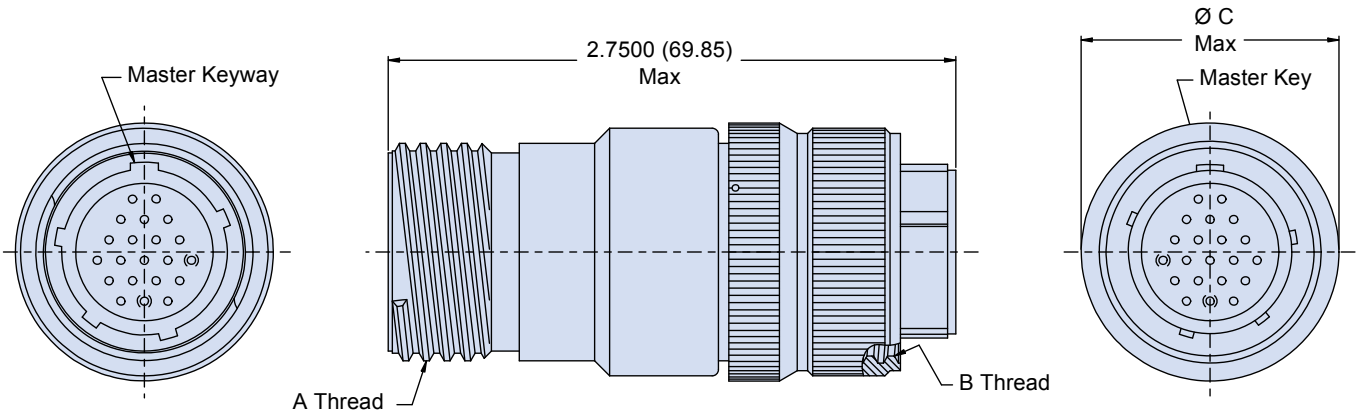


Dimensions				
Shell Size/ Insert Arrangement	**Shell Size Ref**	**A Thread Class 2***	**B Max**	**Contact Size 20: Quantity**
A	**11**	.750 – .1P – 0.2L – DS	1.028 (26.1)	7
B	**13**	.875 – .1P – 0.2L – DS	1.141 (29.0)	12
C	**15**	1.062 – .1P – 0.2L – DS	1.263 (32.1)	21
D	**17**	1.125 – .1P – 0.2L – DS	1.387 (35.2)	31
E	**19**	1.312 – .1P – 0.2L – DS	1.513 (38.4)	42
F	**23**	1.500 – .1P – 0.2L – DS	1.703 (43.3)	64
G	**25**	1.625 – .1P – 0.2L – DS	1.825 (46.4)	92
H	**29**	1.812 – .1P – 0.2L – DS	2.143 (54.4)	121
J	**33**	2.000 – .1P – 0.2L – DS	2.329 (59.2)	155

240-288A FILTER CONNECTOR ADAPTER WITH THREADED COUPLING

How To Order									
Sample Part Number	**240-288**	**A**	**ME**	**19-1**	**PS**	**P**	**A**	**N**	**1**

Filter Connector	**240-288**
Shell Style	**A** = Connector Adapter
Connector Class	See Table I
Insert Arrangement	See Table II
Contact Gender	**PS** = Pins, Plug Side **SP** = Sockets, Plug Side
Filter Type	**P** = Pi Circuit **C** = C Circuit (See Note 1)
Capacitance	See Table IV
Flange Mounting Style	**N** = Not Applicable
Alternate Key Position	**1, 2, 3, 4, 5, 6**



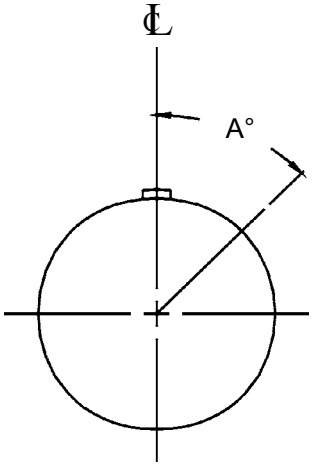
Dimensions			
Shell Size	**A Thread Class 2A**	**B Thread Class 2B**	**Ø C Max**
11	.750-.1P-.2L-DS	.750-.1P-.2L-DS	1.028 (26.11)
13	.875-.1P-.2L-DS	.875-.1P-.2L-DS	1.141 (28.98)
15	1.062-.1P-.2L-DS	1.062-.1P-.2L-DS	1.263 (32.08)
17	1.125-.1P-.2L-DS	1.125-.1P-.2L-DS	1.387 (35.23)
19	1.312-.1P-.2L-DS	1.312-.1P-.2L-DS	1.513 (38.43)
23	1.500-.1P-.2L-DS	1.500-.1P-.2L-DS	1.703 (43.26)
25	1.625-.1P-.2L-DS	1.625-.1P-.2L-DS	1.825 (46.36)
29	1.812-.1P-.2L-DS	1.812-.1P-.2L-DS	2.143 (54.43)
33	2.000-.1P-.2L-DS	2.000-.1P-.2L-DS	2.329 (59.16)

NOTES

1. Other filter styles (C-L, L-C, Unbalanced Pi, Multi-Stage, Multi-Value) are available, please consult the factory.
2. Please consult the factory for Pin/Pin and/or Socket/Socket contact arrangements.

Sav-Con® connector savers
MIL-DTL-26482 Series I and II
Reference Information

Table I: Material and Finish		
Plating Code	**Material**	**Finish**
M	Aluminum	Electroless Nickel
B		Cad Plate, Olive Drab
NF		Cadmium Plate Olive Drab over Electroless Nickel
NC		Zinc-Cobalt
ZN		Olive Drab Zinc-Nickel
MT		Ni-PTFE 1000 Hour Grey™ (Nickel Flourocarbon Polymer)
ZR		Zinc NIckel, Black
ME		Electroless Nickel (RoHS)
ZL	Stainless Steel	Electro-Deposited Nickel



FACE VIEW
RECEPTACLE

To avoid cross-plugging problems in applications requiring the use of more than one connector of the same size and arrangement, alternate positions are available.

In alternate positions, the pin insert rotates clockwise the same number of degrees relative to the center line of the master key or keyway. The socket insert would be rotated counter-clockwise the same number of degrees in respect to the normal shell key.

Table IV: Capacitor Array Code Capacitance Range for Filtered connectors		
Class	**Pi - Circuit (pF)**	**C - Circuit (pF)**
X*	160,000 - 240,000	80,000 - 120,000
Y*	80,000 - 120,000	40,000 - 60,000
Z*	60,000 - 90,000	30,000 - 45,000
A	38,000 - 56,000	19,000 - 28,000
B	32,000 - 45,000	16,000 - 22,500
C	18,000 - 33,000	9,000 - 16,500
D	8,000 - 12,000	4,000 - 6,000
E	3,300 - 5,000	1,650 - 2,500
F	800 - 1,300	400 - 650
G	400 - 600	200 - 300
J	70-120	35-60

* Filter Classes X, Y and Z are 250 VDC.
All others are 500 VDC

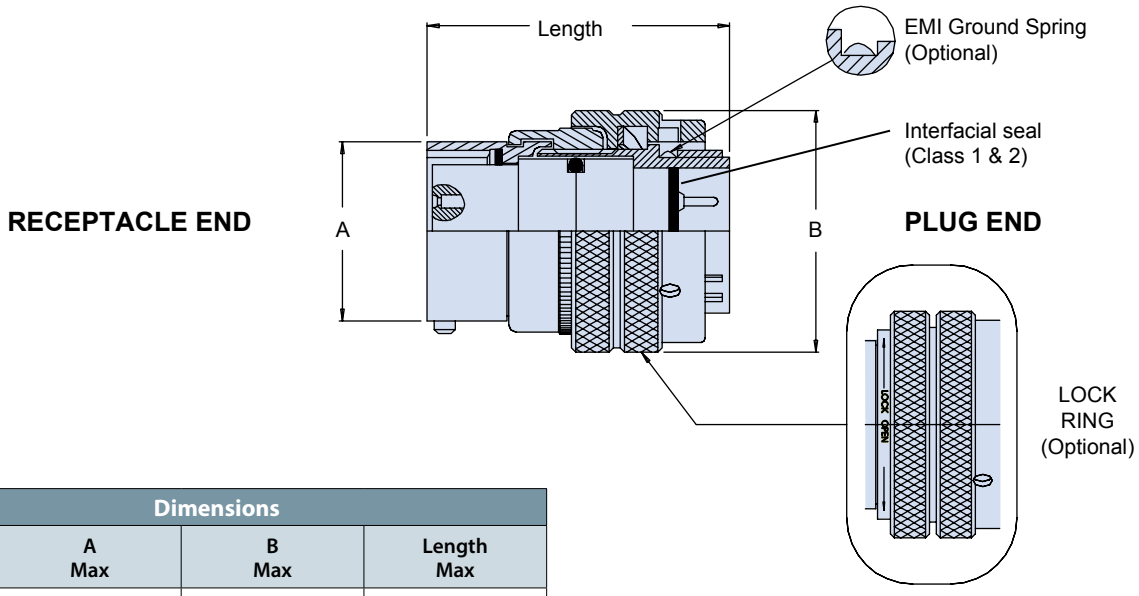
Table II: Insert Arrangement and Alternate Positioning								
Shell Size Desig.	**Insert Arrangement Dash No**	**Contact Size: Quantity**			**Alternate Insert Positions**			
					A Degrees			
		20	**16**	**12**	**W**	**X**	**Y**	**Z**
8	8-2	2			58	122	-	-
	8-3	3			60	210	-	-
	8-4	4			45	-	-	-
	8-33	3			90	-	-	-
	8-98	3			-	-	-	-
10	10-6	6			90	-	-	-
	10-98	6			90	180	240	270
12	12-3		3		-	-	180	-
	12-4		4		38	-	-	-
	12-8	8			90	112	203	292
	12-10	10			60	155	270	295
	12-14	14			60	155	270	295
14	14-4			4	45	-	-	-
	14-5		5		40	92	184	273
	14-9	5		4	15	90	180	240
	14-12	8	4		43	90	-	-
	14-15	14	1		17	110	155	234
	14-18	18			15	90	180	270
	14-19	19			30	165	315	-
	14-22	1		4	45	-	-	-
16	16-8		8		54	152	180	331
	16-14	8		6	25	78	180	240
	16-23	22	1		158	270	-	-
	16-26	26			60	-	275	338
	16-99	21	2		66	156	223	340
18	18-11		11		62	119	241	340
	18-30	29	1		180	193	285	350
	18-32	32			85	138	222	265
	18-85	5		8	45	90	180	240
20	20-16		16		238	318	333	347
	20-24	24			70	145	215	290
	20-25	25			72	144	216	288
	20-27	27			72	144	216	288
	20-39	37	2		63	144	252	333
	20-41	41			45	126	225	-
	20-90	3		12	18	60	240	270
22	22-12			12	-	-	-	-
	22-19			19	15	90	-	-
	22-21		21		16	135	175	349
	22-32	32			72	145	215	288
	22-34	34			62	142	218	298
	22-36	36			72	144	216	288
	22-37	31	6		90	180	270	-
	22-41	27	14		39	135	264	-
	22-55	55			30	142	226	314
	22-95	26		6	26	180	266	-
24	24-19			19	30	165	315	-
	24-27	11		16	45	110	140	225
	24-31		31		90	225	255	-
	24-61	61			90	180	270	324

B

Sav-Con® connector savers
MIL-DTL-26482 Series I and II
940-001, 941-001 and 942-001 Bayonet Coupling

940-001 SERIES I GENERAL DUTY, 941-001 ENVIRONMENTAL AND 942-001 HIGH RELIABILITY

How To Order											
Sample Part Number	**94**	**0**	**L**	**001**	**M**	**22**	**G**	**55**	**P**	**X**	**131**
Series	**94**										
Class	**0** = General Duty **1** = Environmental **2** = High Reliability										
Lock Ring (optional)	**L** = Lock Ring — (dash) = Standard										
Basic Number	**001**										
Finish	See Table I										
Shell Size	See Table II										
EMI Ground	**G** = EMI Ground Spring (optional) — (dash) = Standard										
Insert Arrangement	See Table II										
Contact Type	**P** = Pins, Plug Side **S** = Sockets, Plug Side										
Alternate Key Position	**W**, **X**, **Y**, **Z**, **N** = Normal; See Table II										
Mod Code	**131** = Dry Lube, Omit for None										



Dimensions			
Shell Size	**A Max**	**B Max**	**Length Max**
08	.474 (12.0)	.750 (19.1)	1.375 (34.9)
10	.591 (15.0)	.859 (21.8)	1.375 (34.9)
12	.751 (19.1)	1.031 (26.2)	1.375 (34.9)
14	.875 (22.2)	1.156 (29.4)	1.375 (34.9)
16	1.001 (25.4)	1.281 (32.5)	1.375 (34.9)
18	1.126 (28.6)	1.391 (35.3)	1.375 (34.9)
20	1.251 (31.8)	1.531 (38.6)	1.500 (38.1)
22	1.376 (35.0)	1.656 (42.1)	1.500 (38.1)
24	1.501 (38.1)	1.777 (45.1)	1.500 (38.1)

INTERMATEABLE WITH THE FOLLOWING CONNECTORS:

MIL-DTL-83723 Series I
40M39569
PAN 6432-1
NFC C93-422 (HE301B)
NFC C93-422 (HE302)
NFC C93-422 (HE312)
VG 95328

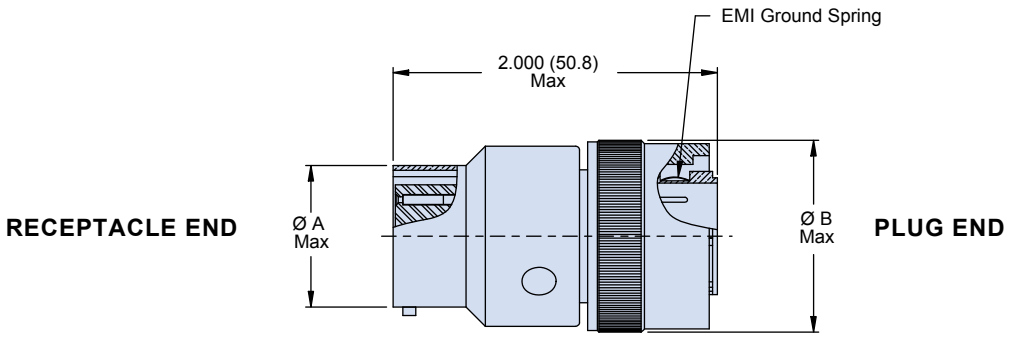
*Add Modification Code 131 for Dry Lubricant on inside surfaces of Coupling Nut.

May not be suitable for space applications.

Sav-Con® connector savers
MIL-DTL-26482 Series II
240-264A Bayonet Coupling

240-264A SERIES II FILTER CONNECTOR ADAPTER WITH BAYONET COUPLING

How To Order										
Sample Part Number	**240-264**	**A**	**ME**	**16-26**	**PS**	**P**	**A**	**N**	**N**
Filter Connector	**240-264**								
Shell Style	**A** = Connector Adapter								
Finish	See Table I								
Shell Size - Insert Arrangement	See Table II								
Contact Gender	**PS** = Pins, Plug Side **SP** = Sockets, Plug Side (See Note 2)								
Filter Type	**P** = Pi Circuit **C** = C Circuit (See Note 1)								
Capacitance	See Table IV								
Flange Mounting Style	**N** = Not Applicable								
Alternate Insert Position	**W**, **X**, **Y**, **Z**, **N** = Normal; See Table III								



NOTES

1. Other filter styles (C-L, L-C, Unbalanced Pi, Multi-Stage, Multi-Value) are available, please consult the factory.
2. Please consult the factory for Pin/Pin and/or Socket/Socket contact arrangements.

Dimensions		
Shell Size	**ØA Max**	**ØB Max**
8	.474 (12.0)	.784 (19.9)
10	.591 (15.0)	.926 (23.5)
12	.751 (19.1)	1.043 (26.5)
14	.876 (22.3)	1.183 (30.0)
16	1.001 (25.4)	1.305 (33.1)
18	1.126 (28.6)	1.391 (35.3)
20	1.251 (31.8)	1.531 (38.9)
22	1.376 (35.0)	1.656 (42.1)
24	1.501 (38.1)	1.777 (45.1)

B

Table I: Material and Finish

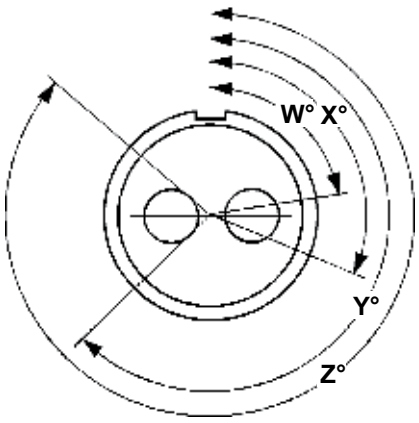
Plating Code	Material	Finish
M	Aluminum	Electroless Nickel
B		Cad Plate, Olive Drab
NF		Cadmium Plate Olive Drab over Electroless Nickel
NC		Zinc-Cobalt
ZN		Olive Drab Zinc-Nickel
MT		Ni-PTFE 1000 Hour Grey™ (Nickel Flourocarbon Polymer)
ZR		Zinc NIckel, Black
ME		Electroless Nickel (RoHS)
ZL	Stainless Steel	Electro-Deposited Nickel

Table II: Shell Size and Insert Arrangements

Shell Size Desig.	Insert Arrangement Dash No.	Contact Size: Quantity					Service Rating	Alternate Keyway Positions			
		16	12	8	4	0		W°	X°	Y°	Z°
08S	8S-1	1					A	-	-	-	-
10S	10S-2	1					A	-	-	-	-
10SL	10SL-3	3					A	-	-	-	-
	10SL-4	2					A	-	-	-	-
12S	12S-3	2					A	70	145	215	290
14S	14S-2	4					Inst.	-	120	240	-
	14S-5	5					Inst.	-	110	-	-
	14S-6	6					Inst.	-	-	-	-
	14S-7	3					A	90	180	270	-
	14S-9	2					A	70	145	215	290
16	16-7	2		1			A	80	110	250	280
	16-9	2	2				A	35	110	250	325
	16-10		3				A	90	180	270	-
	16-11		2				A	35	110	250	325
16S	16S-1	7					A	80	-	-	280
	16S-4	2					D	35	110	250	325
	16S-8	5					A	-	170	265	-
18	18-1	10					Inst.	70	145	215	290
	18-4	4					D	35	110	250	325
	18-8	7	1				A	70	-	-	290
	18-9	5	2				Inst.	80	110	250	280
	18-10		4				A	-	120	240	-
	18-11		5				A	-	170	265	-
	18-12	6					A	80	-	-	280
	18-22	3					D	70	145	215	290
20	20-4		4				D	45	110	250	-
	20-7	8					A	80	110	250	280
	20-14		3	2			A	80	110	250	280
	20-15		7				A	80	-	-	280
	20-16	7	2				A	80	110	250	280
	20-18	6	3				A	35	110	250	325
	20-2					1	D	-	-	-	-
	20-27	14					A	35	110	250	325
	20-29	17					A	80	-	-	280
22	22-2			3			D	70	145	215	290
	22-22			4			A	-	110	250	-
	22-5	4	2				D	35	110	250	325
	22-13	1	4				A	35	110	250	325
	22-14	19					A	80	-	-	280
	22-18	8					A	80	110	250	280
	22-19	14					A	80	110	250	280

Table II: Shell Size and Insert Arrangements											
Shell Size Desig.	Insert Arrangement Dash No.	Contact Size: Quantity					Service Rating	Alternate Keyway Positions			
		16	12	8	4	0		W°	X°	Y°	Z°
24	24-4	3				1	D	80	110	250	280
	24-7	14	2				A	80	110	250	280
	24-10			7			A	80	-	-	280
	24-11		6	3			A	35	110	250	325
	24-20	9	2				D	80	110	250	280
	24-22			4			D	45	110	250	-
	24-28	24					Inst.	80	110	250	280
28	28-2	12	2				D	35	110	250	325
	28-9	6	6				D	80	110	250	280
	28-11	18	4				A	80	110	250	280
	28-12	26					A	90	180	270	-
	28-15	35					A	80	110	250	280
	28-17	15					A	80	110	250	280
	28-21	37					A	80	110	250	280
32	32-1		3			2	D	80	110	250	280
	32-6	16	2	3	2		A	80	110	250	280
	32-7	28					Inst.	80	125	235	280
	32-9	12			2		D	80	110	250	280
	32-15		6			2	D	35	110	250	280
	32-17				4		D	45	110	250	-
36	36-4					3	A	70	145	214	290
	36-5					4	A	-	120	240	-
	36-6				4	2	A	35	110	250	325
	36-7	40	7				A	80	110	250	280
	36-8	46	1				A	80	110	250	280
	36-9	14	14	2	1		A	80	125	235	280
	36-10	48					A	80	125	235	280
	36-14	6	5	5			D	90	180	270	-
	36-15	35					A	60	125	245	305
40	40-10	16		9	4		A	65	125	225	310
	40-56	85					A	72	144	216	288
44	44-1	36	6				D	65	125	225	310
48	48-5	90	9	1			A	65	125	225	310

INSERT KEYING POSITION



PIN INSERT FACE VIEW
NORMAL INSERT
KEYING SHOWN

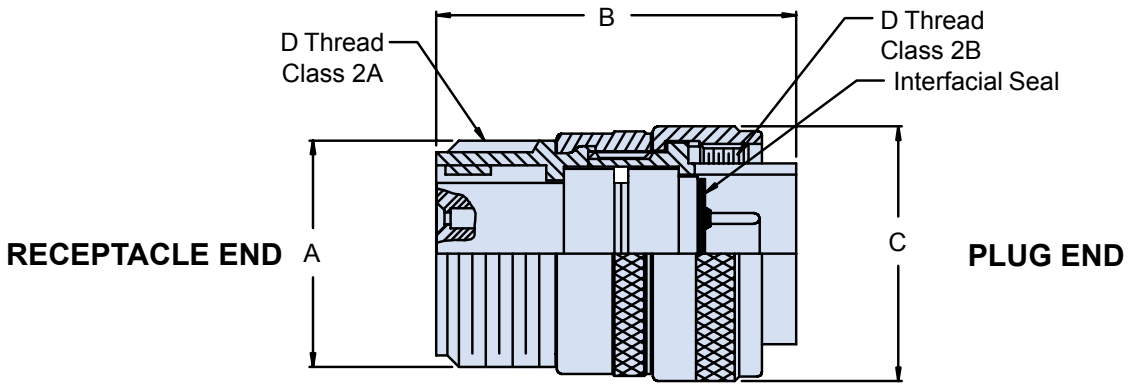
Table III: Capacitor Array Code Capacitance Range For filtered Connectors	
Class	C - Circuit (pF)
X	80,000 - 120,000
Y	40,000 - 60,000
Z	30,000 - 45,000
A	19,000 - 28,000
B	16,000 - 22,500
C	9,000 - 16,500

Sav-Con® connector savers
MIL-DTL-5015
941-011 and 942-011 Threaded Coupling

940-011 GENERAL DUTY, 941-011 ENVIRONMENTAL AND 942-011 HIGH RELIABILITY

How To Order							
Sample Part Number	**94**	**2**	**011**	**NF**	**28-2**	**P**	**X**

Series	**94**
Class	**1** = Environmental **2** = High Reliability
Basic Number	011
Finish	See Table I
Shell Size - Insert Arrangement	See Table II
Contact Type	**P** = Pins, Plug Side **S** = Sockets, Plug Side
Alternate Key Position	**W**, **X**, **Y**, **Z**, **N** = Normal; See Table II

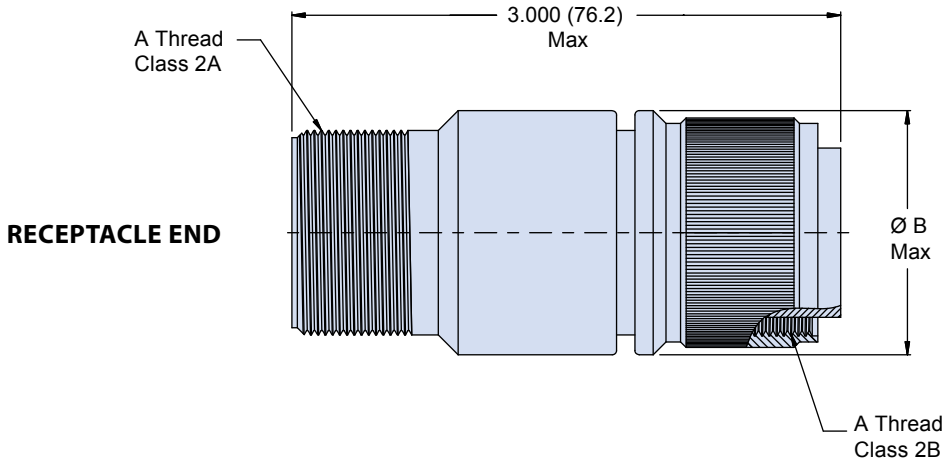


Dimensions									
Shell Size	**A Ref**	**B Max**	**C Max**	**D Thread Class 2A**	**Shell Size**	**A Ref**	**B Max**	**C Max**	**D Thread Class 2A**
08S	.500 (12.7)	1.750 (44.5)	.844 (21.4)	1/2–28 UNEF	**20**	1.250 (31.8)	2.125 (54.0)	1.469 (37.3)	1 1/4–18 UNEF
10SL	.625 (15.9)	1.750 (44.5)	.969 (24.6)	5/8–24 UNEF	**22**	1.375 (34.9)	2.125 (54.0)	1.594 (40.5)	1 3/8–18 UNEF
12S	.750 (19.1)	1.750 (44.5)	1.062 (27.0)	3/4–20 UNEF	**24**	1.500 (38.1)	2.125 (54.0)	1.719 (43.7)	1 1/2–18 UNEF
12	.750 (19.1)	2.125 (54.0)	1.062 (27.0)	3/4–20 UNEF	**28**	1.750 (44.5)	2.125 (54.0)	1.969 (50.0)	1 3/4–18 UNS
14S	.875 (22.2)	1.750 (44.5)	1.156 (29.4)	7/8–20 UNEF	**32**	2.000 (50.8)	2.125 (54.0)	2.219 (56.4)	2–18 UNEF
14	.875 (22.2)	2.125 (54.0)	1.156 (29.4)	7/8–20 UNEF	**36**	2.250 (57.2)	2.125 (54.0)	2.469 (62.7)	2 1/4–16 UNS
16S	1.000 (25.4)	1.750 (44.5)	1.250 (31.8)	1 –20 UNEF	**40**	2.500 (63.5)	2.125 (54.0)	2.719 (69.1)	2 1/2–16 UN
16	1.000 (25.4)	2.125 (54.0)	1.250 (31.8)	1 –20 UNEF	**44**	2.750 (69.9)	2.125 (54.0)	2.969 (75.4)	2 3/4–16 UN
18	1.125 (28.6)	2.125 (54.0)	1.344 (34.1	1 1/8–18 UNEF	**48**	3.000 (76.2)	2.125 (54.0)	3.219 (81.8)	3 –16 UN

240-515A FILTER CONNECTOR ADAPTER WITH THREADED COUPLING

How To Order									
Sample Part Number	**240-515**	**A**	**ME**	**36-5**	**PS**	**C**	**A**	**N**	**N**

Filter Connector	**240-515**
Shell Style	**A** = Connector Adapter
Finish	**ME**, **NF**, **ZL**; See Table I
Insert Arrangement	See Table II
Contact Gender	**PS** = Pins, Plug Side **SP** = Sockets, Plug Side
Filter Type	**C** = C Circuit (See Note 1)
Capacitance	See Table III
Flange Mounting Style	**N** = Not Applicable
Alternate Insert Position	Per MIL-STD-1651. **W**, **X**, **Y**, **Z**, **N** = Normal; See Table II



Dimensions		
Shell Size	**A Thread**	**Ø B Max**
8S	.500-28 UNEF	.844 (21.4)
10SL	.625-24 UNEF	.969 (24.6)
10SL	.625-24 UNEF	.969 (24.6)
12S	.750-20 UNEF	1.062 (27.0)
12	.750-20 UNEF	1.062 (27.0)
14S	.875-20 UNEF	1.156 (29.4)
14	.875-20 UNEF	1.156 (29.4)
16S	1.000-20 UNEF	1.250 (31.8)
16	1.000-20 UNEF	1.250 (31.8)

Dimensions		
Shell Size	**A Thread**	**Ø B Max**
18	1.125-18 UNEF	1.344 (34.1)
20	1.250-18 UNEF	1.469 (37.3)
22	1.375-18 UNEF	1.594 (40.5)
24	1.500-18 UNEF	1.719 (43.7)
28	1.750-18 UNS	1.969 (50.0)
32	2.000-18 UNS	2.219 (56.4)
36	2.250-16 UN	2.469 (32.7)
40	2.500-16 UN	2.719 (69.1)

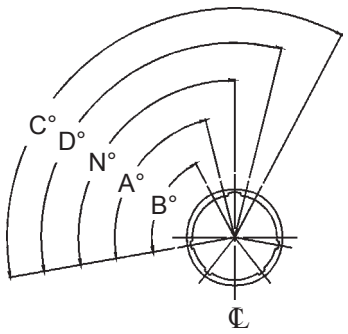
NOTES

1. Other filter styles (Pi, C-L, L-C, Unbalanced Pi, Multi-Stage, Multi-Value) are available, please consult the factory.
2. Please consult the factory for Pin/Pin and/or Socket/Socket contact arrangements.

Sav-Con® connector savers
LN 29729 (SJT)
Reference Information

B

Table I: Material and Finish		
Plating Code	**Material**	**Finish**
M	Aluminum	Electroless Nickel
B		Cad Plate, Olive Drab
NF		Cadmium Plate Olive Drab over Electroless Nickel
NC		Zinc-Cobalt
ZN		Olive Drab Zinc-Nickel
MT		Ni-PTFE 1000 Hour Grey™ (Nickel Flourocarbon Polymer)
ZR		Zinc NIckel, Black
ME		Electroless Nickel (RoHS)
ZL	Stainless Steel	Electro-Deposited Nickel



FACE VIEW
RECEPTACLE
In alternate positions, the pin insert rotates clockwise while the socket insert rotates counterclockwise the same number of degrees relative to the center line of the master key or keyway.

Table II: Insert Arrangements and Keyway Positions										
Shell Size Desig	**Insert Arrangement Dash No.**	**Contact Size: Quantity**				**Alternate Keyway Positions**				
		22	**20**	**16**	**12**	**N°**	**A°**	**B°**	**C°**	**D°**
08	8-35	6				95	-	-	-	-
	8-44	4								
	8-98		3							
10	10-5		5			95	81	67	123	109
	10-35	13								
	10-98		6							
12	12-4			4		95	75	63	127	115
	12-8		8							
	12-35	22								
	12-98		10							
14	14-5			5		95	74	61	129	116
	14-15		14	1						
	14-18		18							
	14-19		19							
	14-35	37								
	14-97		8	4						
16	16-6				6	95	77	65	125	113
	16-8			8						
	16-26		26							
	16-35	55								
	16-99		21	2						
18	18-11			11		95	77	65	125	113
	18-32		32							
	18-35	66								
20	20-35	79				95	77	65	125	113
	20-11				11					
	20-16			16						
	20-39		37	2						
	20-41		41							
22	22-35	100				95	80	69	121	110
	22-2	85								
	22-21			21						
	22-53		53							
24	24-35	128				95	80	69	121	110
	24-2	100								
	24-19				19					
	24-29			29						
	24-61		61							

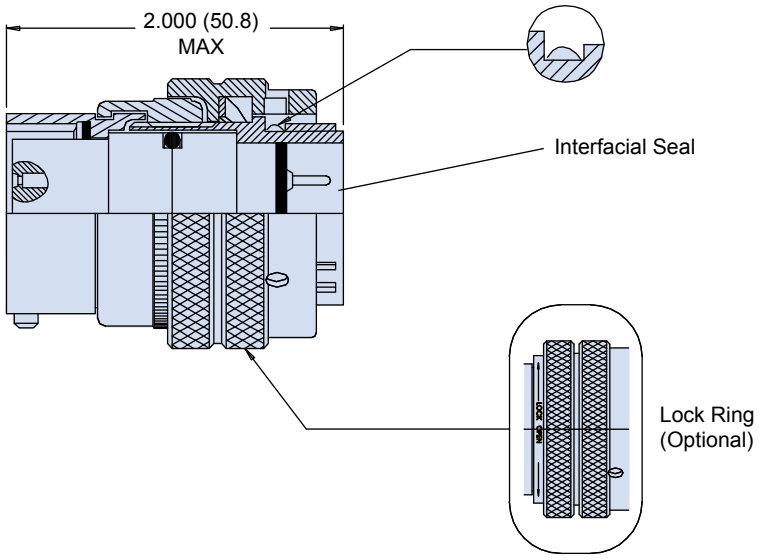
Consult Factory for Additional Filter Types, TVS Diodes, and other Custom Configurations.

941-008 ENVIRONMENTAL AND 942-008 HIGH RELIABILITY WITH BAYONET COUPLING

How To Order										
Sample Part Number	**94**	**1**	**L**	**008**	**NF**	**28**	**G**	**22**	**P**	**X**

Series	**94**
Class	**1** = Environmental **2** = High Reliability
Lock Ring (optional)	**L** = Lock Ring **–** (dash) = Standard
Basic Number	**008**
Finish	See Table I
Shell Size	See Table II
EMI Ground	**G** = EMI Ground Spring (optional) **–** (dash) = Standard
Insert Arrangement	See Table II
Contact Type	**P** = Pins, Plug Side **S** = Sockets, Plug Side
Alternate Key Position	**W**, **X**, **Y**, **Z**, **N** = Normal; See Table II

RECEPTACLE END



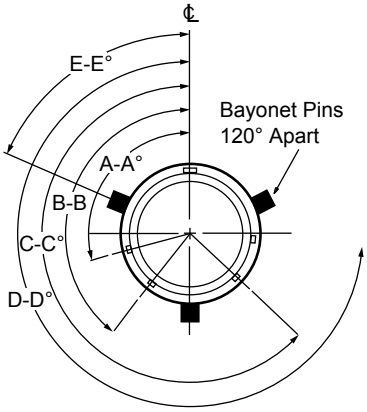
INTERMATEABLE WITH THE FOLLOWING CONNECTORS:
PAN 6433-2, PATT 615 NFC C93-422 (HE306) VG 96912

B

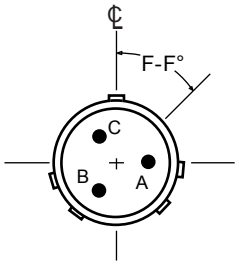
Sav-Con® connector savers
PATT 105 and PATT 602
Reference Information

B

Table I: Material and Finish		
Plating Code	Material	Finish
M	Aluminum	Electroless Nickel
B		Cad Plate, Olive Drab
NF		Cadmium Plate Olive Drab over Electroless Nickel
NC		Zinc-Cobalt
ZN		Olive Drab Zinc-Nickel
MT		Ni-PTFE 1000 Hour Grey™ (Nickel Flourocarbon Polymer)
ZR		Zinc NIckel, Black
ME		Electroless Nickel (RoHS)
ZL	Stainless Steel	Electro-Deposited Nickel



FACE VIEW
RECEPTACLE



FACE VIEW
PIN INSERT
(Socket Insert Opposite)

Table II: Insert Arrangement								
Shell Size Desig.	Insert Arr. Dash No.	Contact Size: Quantity			Alternate Insert Position (Degrees) FF°			
		20	16	12	W	X	Y	Z
08	-33	3			90	-	-	-
	-98	3			-	-	-	-
10	-6	6			90	-	-	-
	-98	6			90	180	240	270
12	-3		3		-	-	180	-
	-10	10			60	155	270	295
14	-4			4	45	-	-	-
	-5		5		40	92	184	273
	-12	8	4		43	90	-	-
	-19	19			30	165	315	-
	-22	1		4	45	-	-	-
16	-8		8		54	152	180	331
	-26	26			60	-	275	338
18	-11		11		62	119	241	340
	-30	29	1		180	193	285	350
	-32	32			85	138	222	265
20	-16		16		238	318	333	347
	-41	41			45	126	225	-
22	-21		21		16	135	175	349
	-55	55			30	142	226	314
24	-61	61			90	180	270	324

NOTES:

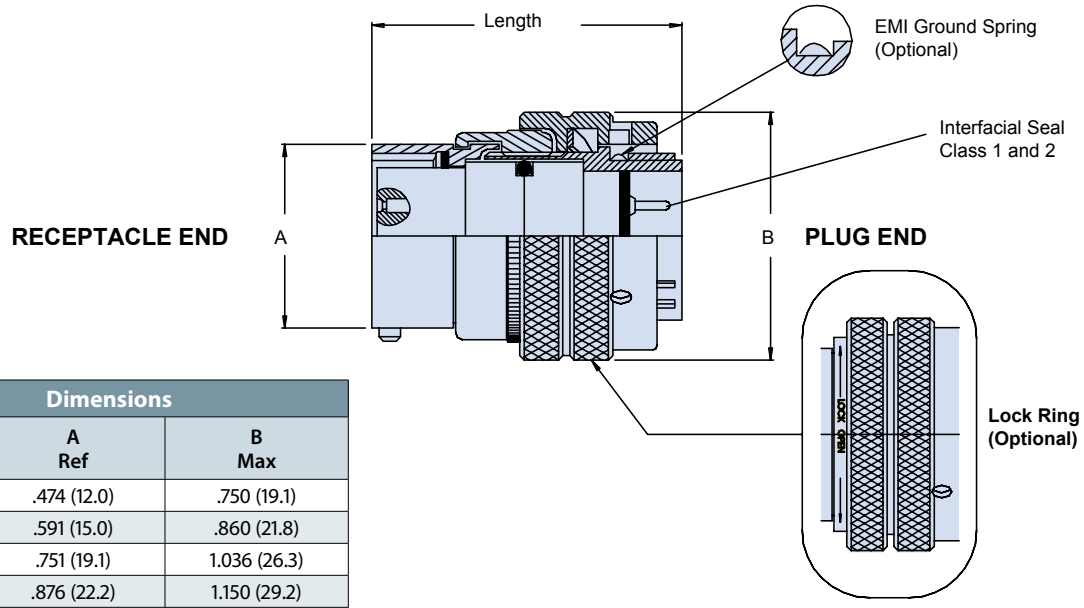
- In Alternate Insert Positions, the Pin Insert rotates clockwise while the Socket Insert rotates counter-clockwise the same number of degrees relative to the centerline of the Master Key or Keyway.
- In Alternate Key/Keyway Positions, the smaller Plug Keys rotate clockwise with respect to the centerline of the Master Keyway as shown.

Table III Alternate Key/Keyway Positions (Degrees)																										
Shell Size	A-A°					B-B°					C-C°					D-D°					E-E°				
	N	B	C	E	F	N	B	C	E	F	N	B	C	E	F	N	B	C	E	F	N	B	C	E	F
8	105	-	-	118	82	140	-	-	148	132	215	-	-	248	207	265	-	-	278	252	60	-	-	73	47
10	105	85	125	115	85	140	120	160	145	135	215	195	235	245	210	265	245	285	275	255	60	40	80	70	50
12	105	89	121	115	85	140	124	156	145	135	215	199	231	245	210	265	249	281	275	255	60	44	76	70	50
14	105	91	119	75	120	140	126	154	105	170	215	201	229	205	245	265	251	279	235	290	60	46	74	30	75
16	105	93	117	75	120	140	128	152	105	170	215	203	227	205	245	265	253	277	235	290	60	48	72	30	75
18	105	95	115	75	120	140	130	150	105	170	215	205	225	205	245	265	255	275	235	290	60	50	70	30	75
20	105	95	115	75	120	140	130	150	105	170	215	205	225	205	245	265	255	275	235	290	60	50	70	30	75
22	105	97	113	75	120	140	132	148	105	170	215	207	223	205	245	265	257	273	235	290	60	52	68	30	75
24	105	97	113	75	120	140	132	148	105	170	215	207	223	205	245	265	257	273	235	290	60	52	68	30	75

Sav-Con® connector savers
PATT 105 and PATT 602
940-009, 941-009, 942-009 Bayonet Coupling

940-009 GENERAL DUTY, 941-009 ENVIRONMENTAL AND 942-009 HIGH RELIABILITY

How To Order												
Sample Part Number	**94**	**0**	**L**	**009**	**N**	**24**	**G**	**61**	**P**	**AA**	**-B**	**131**
Series	**94**											
Class	**0** = General Duty **1** = Environmental **2** = High Reliability											
Lock Ring (optional)	**L** = Lock Ring **–** = Standard											
Basic Number	**009**											
Finish	See Table I											
Shell Size	See Dimensions Table											
EMI Ground	**G** = EMI Ground Spring (optional) **–** = Standard											
Insert Arrangement	S ee Table II											
Contact Type	**P** = Pins, Plug Side **S** = Sockets, Plug Side											
Alternate Key Configuration	**AA**, **BB**, **CC**, **DD**, **N** = Normal											
Alternate Key Position	**A**, **B**, **C**, **D**, **E**, **F**, **N** = Normal; See Table III											
Mod Code	**131** = Dry Lube, Omit for None											



Dimensions		
Shell Size	**A Ref**	**B Max**
08	.474 (12.0)	.750 (19.1)
10	.591 (15.0)	.860 (21.8)
12	.751 (19.1)	1.036 (26.3)
14	.876 (22.2)	1.150 (29.2)
16	1.101 (27.97)	1.280 (32.5)
18	1.126 (28.6)	1.400 (35.3)
20	1.251 (31.8)	1.530 (38.6)
22	1.376 (35.0)	1.640 (41.1)
24	1.501 (38.1)	1.60(45.1)

B

Sav-Con® connector savers
Mighty Mouse Series 801
Reference Information

B

Table I: Material and Finish		
Code	Material	Finish
C	Aluminum	Black Anodize (Non-Conductive) RoHS Compliant
M		Electroless Nickel RoHS Compliant
NF		Cadmium with Olive Drab Chromate
ZN		Zinc-Nickel with Olive Drab Chromate
ZNU		Zinc-Nickel with Black Chromate
MT		Nickel-PTFE RoHS Compliant
Z1	Stainless Steel	Passivated RoHS Compliant

Plug Key Positions

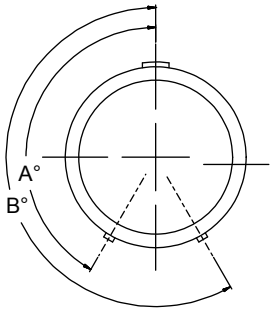


Table III:Key Positions		
Key Position	Key Rotation	
	A°	B °
A	150	210
B	75	210
C	95	230
D	140	275
E	75	275
F	95	210

Table II: Insert Arrangements						
Insert Arr.	No. of Contacts					
	#23	#20	#20HD	#16	#12	#8
5-3	3					
6-1				1		
6-23			3			
6-4	4					
6-6	6					
6-7	7					
7-1					1	
7-25			5			
7-10	10					
8-1						1
8-2				2		
8-200	4	2				
8-28			8			
8-13	13					
9-4				4		
9-200	4			2		
9-201	8	2				
9-210			10			
9-19	19					
10-2					2	
10-5				5		
10-26	26					
10-200	12				1	
10-201	4				2	
10-202	8			2		
10-200	12				1	
11-31	31					
13-2					2	
13-3					3	
13-7				7		
13-220			20			

Table IV: Capacitor Array Code Capacitance Range for Filtered Connectors		
Class	Pi - Circuit (pF)	C - Circuit (pF)
A	38,000 - 56,000	19,000 - 28,000
B	32,000 - 45,000	16,000 - 22,500
C	18,000 - 33,000	9,000 - 16,500
D	8,000 - 12,000	4,000 - 6,000
E	3,300 - 5,000	1,650 - 2,500
F	800 - 1,300	400 - 650
G	400 - 600	200 - 300
J	70 - 120	35 - 60

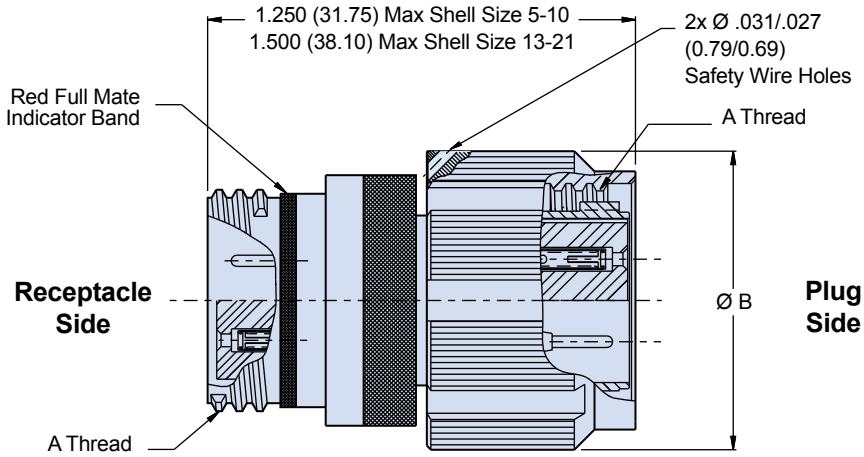
Table II: Insert Arrangements						
Insert Arr.	No. of Contacts					
	#23	#20	#20HD	#16	#12	#8
13-37	37					
13-200	6				2	
13-201	10				2	
13-202	20			2		
13-203	12			4		
13-204	12				2	
13-205	4				4	
16-2						2
16-5					5	
16-12				12		
16-235			35			
16-55	55					
16-204	40			2		
16-205	32			4		
16-206	34				2	
16-207	20				4	
16-208	32					1
17-3						3
17-7					7	
17-14				14		
17-241			41			
17-85	85					
17-203	40			4		
17-204	28				4	
17-205	40					1
19-4						4
19-19				19		
19-201	44					2
19-202	12					4
19-255			55			
19-100	100					
21-5						5
21-12					12	
21-22				22		
21-200						
21-269			69			
21-130	130					

Sav-Con® connector savers
Mighty Mouse Series 801
801-017 Coupling with Double-Start ACME Threads

How To Order						
Sample Part Number	801-017	Z1	13	-37	P	A

Series	**801-017**
Finish	**C** = Aluminum / Black Anodize (Non-Conductive) RoHS Compliant **M** = Aluminum / Electroless Nickel RoHS Compliant **NF** = Aluminum / Cadmium with Olive Drab Chromate **ZN** = Aluminum / Zinc-Nickel with Olive Drab Chromate **ZNU** = Aluminum / Zinc-Nickel with Black Chromate **MT** = Aluminum / Nickel-PTFE RoHS Compliant **Z1** = Stainless Steel / Passivated RoHS Compliant
Shell Size	See Table II
Insert Arrangement	See Table II
Contact Type	**P** = Pin Contact on Plug Side, Socket Contact on Receptacle Side **S** = Socket Contact on Plug Side, Pin Contact on Receptacle Side
Shell Key Position	**A** = Normal, **B**, **C**, **D**, **E**, **F**; See Table III

B

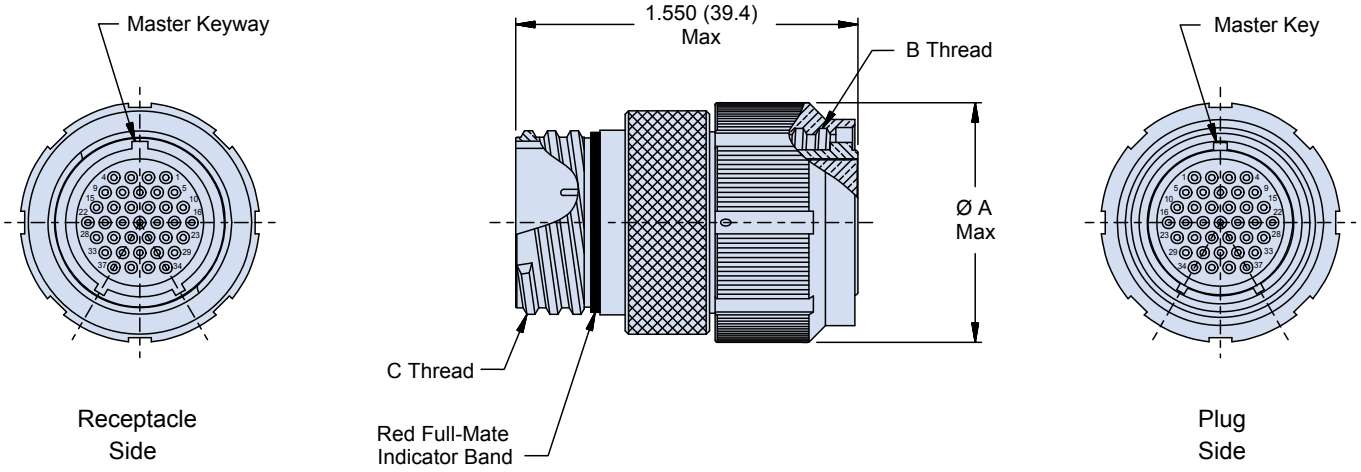


Dimensions			
Shell Size	A Threads	Ø B	
		In.	mm.
5	.3125-.05P-.1L-2	.540	13.72
6	.375-.05P-.1L-2	.600	15.24
7	.4375-.05P-1L-2	.680	17.27
8	.5000-.05P-1L-2	.750	19.05
9	.5625-.05P-.1L-2	.810	20.57
10	.6250-.05P-1L-2	.880	22.35
11	.6875-.05P-1L-2A	.920	23.37
13	.8125-.1P-.2L-2	1.050	26.67
16	1.000-.1P-.2L-2	1.240	31.50
17	1.062-.1P-.2L-2	1.300	33.02
19	1.1875-.1P-.2L-2A	1.400	35.56
21	1.3125-.1p-.2l-2	1.550	39.37

Sav-Con® connector savers
Mighty Mouse Series 801
240-801-AA Filter Connector Adapter

How To Order								
Sample Part Number	240-801-	AA	M	6-7	PS	P	A	A
Filter Connector	**240-801**							
Shell Style	**AA** = Adapter							
Finish	See Table I							
Insert Arrangement	See Table II							
Contact Gender	**PS** = Pins, Plug Side **SP** = Sockets, Plug Side (See Note 2)							
Filter Type	**P** = Pi Circuit **C** = C Circuit; See Table IV, See Note 1							
Capacitance	See Table IV							
Alternate Key Position	**A**, **B**, **C**, **D**, **E**, **F**, **U** **A** = Normal, **U** = Universal; See Table III							

B



NOTES

1. Other filter styles (C-L, L-C, Unbalanced Pi, Multi-Stage, Multi-Value) are available, please consult the factory.
2. Please consult factory for Pin/Pin and/or Socket/Socket contact arrangements.

Dimensions			
Shell Size	**Ø A Max**	**B Thread**	**C Thread**
5	.720 (18.3)	.3125-.05P-.1L-DS-2B	.3125-.05P-.1L-DS-2A
6	.800 (20.3)	.3750-.05P-.1L-DS-2B	.3750-.05P-.1L-DS-2A
7	.870 (22.1)	.4375-.05P-.1L-DS-2B	.4375-.05P-.1L-DS-2A
8	1.000 (25.4)	.5000-.05P-.1L-DS-2B	.5000-.05P-.1L-DS-2A
9	1.060 (26.9)	.5625-.05P-.1L-DS-2B	.5625-.05P-.1L-DS-2A
10	1.060 (26.9)	.6250-.05P-.1L-DS-2B	.6250-.05P-.1L-DS-2A
11	1.100 (27.9)	.6875-.05P-.1L-DS-2B	.6875-.05P-.1L-DS-2A
13	1.250 (31.8)	.8125-.1P-.2L-DS-2B	.8125-.1P-.2L-DS-2A
16	1.380 (35.1)	1.0000-.1P-.2L-DS-2B	1.0000-.1P-.2L-DS-2A
17	1.460 (37.1)	1.0625-.1P-.2L-DS-2B	1.0625-.1P-.2L-DS-2A
19	1.600 (40.6)	1.1875-.1P-.2L-DS-2B	1.1875-.1P-.2L-DS-2A
21	1.850 (47.0)	1.3125-.1P-.2L-DS-2B	1.3125-.1P-.2L-DS-2A

Sav-Con® connector savers
Mighty Mouse Series 805
Reference Information

Table I: Material and Finish

Code	Material	Finish
C	Aluminum	Black Anodize (Non-Conductive) RoHS Compliant
M		Electroless Nickel RoHS Compliant
NF		Cadmium with Olive Drab Chromate
ZN		Zinc-Nickel with Olive Drab Chromate
ZNU		Zinc-Nickel with Black Chromate
MT		Nickel-PTFE RoHS Compliant
Z1	Stainless Steel	Passivated RoHS Compliant

Plug Key Positions

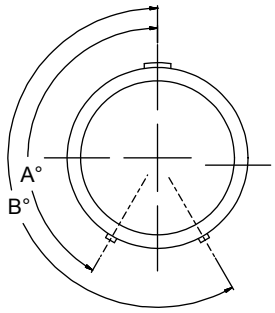


Table II: Insert Arrangements

Contact Arr.	No. of Contacts					
	#23	#20	#20HD	#16	#12	#8
8-1				1		
8-23			3			
8-4	4					
8-6	6					
8-7	7					
9-1					1	
9-25			5			
9-10	10					
10-1						1
10-2				2		
10-28			8			
10-13	13					
10-200	4	2				
11-4				4		
11-210			10			
11-19	19					
11-200	4			2		
11-201	8	2				
12-2					2	
12-5				5		
12-26	26					
12-200	12				1	
12-201	4				2	
12-202	8			2		
13-31	31					
15-2					2	
15-3					3	
15-7				7		
15-220			20			
15-37	37					
15-200	6				2	
15-201	10				2	
15-202	20			2		

Table II: Insert Arrangements

Contact Arr.	No. of Contacts					
	#23	#20	#20HD	#16	#12	#8
15-203	12			4		
15-204	12				2	
15-205	4				4	
18-2						2
18-5					5	
18-12				12		
18-235			35			
18-55	55					
18-204	40			2		
18-205	32			4		
18-206	34			2		
18-207	20			4		
18-208	32					1
19-3						3
19-7					7	
19-14				14		
19-241			41			
19-85	85					
19-203	40			4		
19-204	28				4	
19-205	40					1
21-4						4
21-19				19		
21-255			55			
21-100	100					
21-201	44					2
21-202	12					4
23-5						5
23-12					12	
23-22				22		
23-269			69			
23-130	130					
23-200	28					4

Table III: Plug Keyway

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

Table IV: Capacitor Array Code Capacitance Range for Filtered Connectors

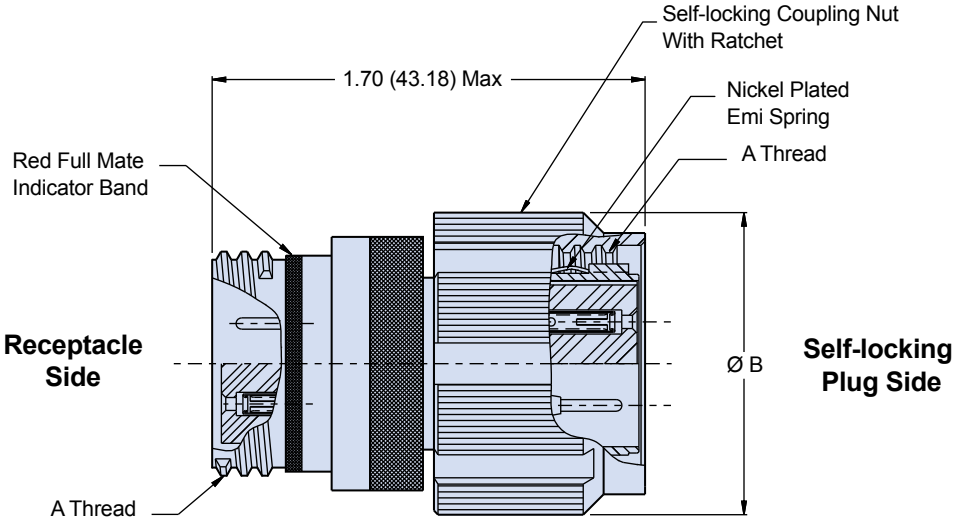
Class	Pi - Circuit (pF)	C - Circuit (pF)
A	38,000 - 56,000	19,000 - 28,000
B	32,000 - 45,000	16,000 - 22,500
C	18,000 - 33,000	9,000 - 16,500
D	8,000 - 12,000	4,000 - 6,000
E	3,300 - 5,000	1,650 - 2,500
F	800 - 1,300	400 - 650
G	400 - 600	200 - 300
J	70 - 120	35 - 60

* Universal keyway is not intended for field use

Sav-Con® connector savers
Mighty Mouse Series 805
805-010 Coupling with Triple-Start ACME Threads

How To Order						
Sample Part Number	**805-010**	**Z1**	**12**	**-26**	**P**	**A**

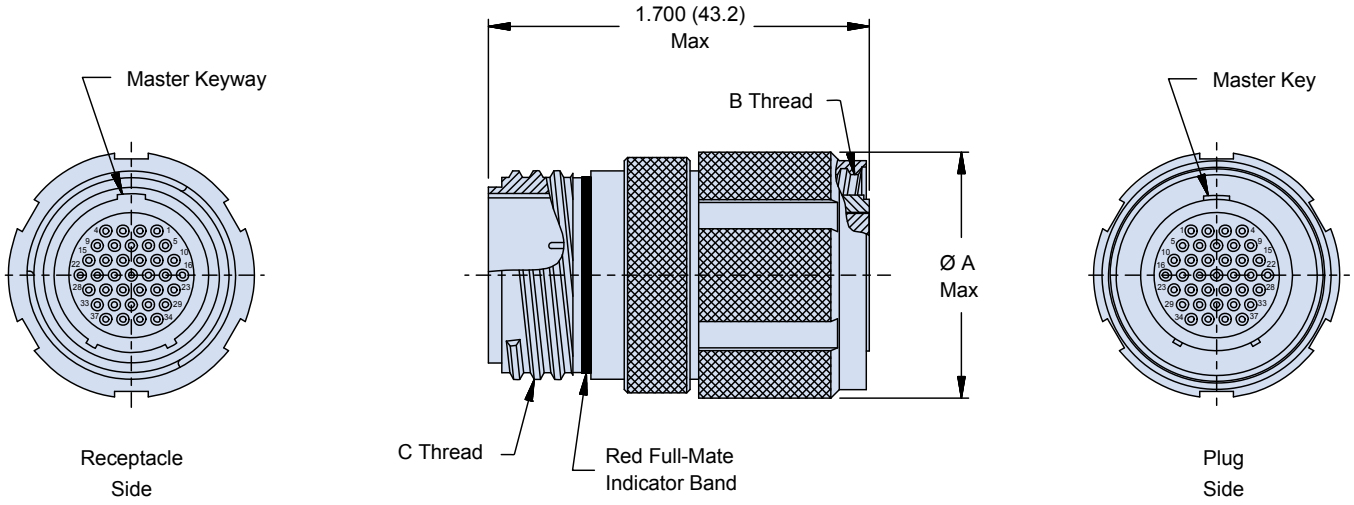
Series	**805-010**
Finish	**C** = Aluminum / Black Anodize (Non-Conductive) RoHS Compliant **M** = Aluminum / Electroless Nickel RoHS Compliant **NF** = Aluminum / Cadmium with Olive Drab Chromate **ZN** = Aluminum / Zinc-Nickel with Olive Drab Chromate **ZNU** = Aluminum / Zinc-Nickel with Black Chromate **MT** = Aluminum / Nickel-PTFE RoHS Compliant **Z1** = Stainless Steel / Passivated RoHS Compliant
Shell Size	See Table II
Insert Arrangement	See Table II
Contact Type	**P** = Pin Contact on Plug Side, Socket Contact on Receptacle Side **S** = Socket Contact on Plug Side, Pin Contact on Receptacle Side
Shell Key Position	**A** = Normal, **B**, **C**, **D**, **E**, **F**; See Table III



Dimensions			
Shell Size	**A Threads**	**Ø B**	
		In.	**mm.**
8	.5000-.1P-.3L-TS-2B	.691	17.55
9	.5625-.1P-.3L-TS-2B	.787	19.99
10	.6250-.1P-.3L-TS-2B	.826	20.98
11	.6875-.1P-.3L-TS-2B	.916	23.27
12	.7500-.1P-.3L-TS-2B	.982	24.94
15	.9375-.1P-.3L-TS-2B	1.097	27.86
18	1.1250-.1P-.3L-TS-2B	1.290	32.77
19	1.1875-.1P-.3L-TS-2B	1.310	33.27
23	1.4375-.1P-.3L-TS-2B	1.562	39.67

Sav-Con® connector savers
Mighty Mouse Series 805
240-805-AA Filter Connector Adapter

How To Order								
Sample Part Number	240-805-	AA	M	8-7	PS	P	A	A
Filter Connector	**240-805**							
Shell Style	**AA** = Adapter							
Finish	See Table I							
Insert Arrangement	See Table II							
Contact Gender	**PS** = Pins, Plug Side **SP** = Sockets, Plug Side (See Note 2)							
Filter Type	**P** = Pi Circuit **C** = C Circuit (See Note 1)							
Capacitance	See Table IV							
Alternate Key Position	**A, B, C, D, E, F, U** **A** = Normal, **U** = Universal; See Table III							



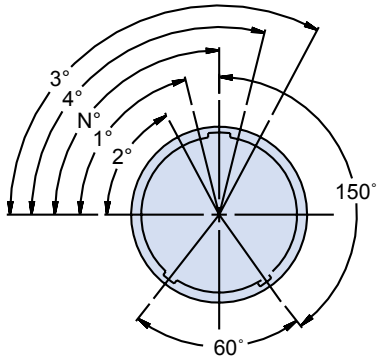
NOTES

1. Other filter styles (C-L, L-C, Unbalanced Pi, Multi-Stage, Multi-Value) are available, please consult the factory.
2. Please consult factory for Pin/Pin and/or Socket/Socket contact arrangements.

Dimensions			
Shell Size	**Ø A Max**	**B Thread**	**C Thread**
8	.870 (22.1)	.5000-.1P-.3L-TS-2B	.5000-.1P-.3L-TS-2A
9	.930 (23.6)	.5625-.1P-.3L-TS-2B	.5625-.1P-.3L-TS-2A
10	1.000 (25.4)	.6250-.1P-.3L-TS-2B	.6250-.1P-.3L-TS-2A
11	1.170 (29.7)	.6875-.1P-.3L-TS-2B	.6875-.1P-.3L-TS-2A
12	1.170 (29.7)	.7500-.1P-.3L-TS-2B	.7500-.1P-.3L-TS-2A
13	1.300 (33.0)	.8125-.1P-.3L-TS-2B	.8125-.1P-.3L-TS-2A
15	1.350 (34.3)	.9375-.1P-.3L-TS-2B	.9375-.1P-.3L-TS-2A
18	1.600 (40.6)	1.1250-.1P-.3L-TS-2B	1.1250-.1P-.3L-TS-2A
19	1.600 (40.6)	1.1875-.1P-.3L-TS-2B	1.1875-.1P-.3L-TS-2A
21	1.750 (44.5)	1.3125-.1P-.3L-TS-2B	1.3125-.1P-.3L-TS-2A
23	1.850 (47.0)	1.4375-.1P-.3L-TS-2B	1.4375-.1P-.3L-TS-2A

B

Table I: Material/Finish	
Sym	**Finish Description**
B	Aluminum/Cadmium Plate/Olive Drab
J	Aluminum/Gold Iridite Over Cadmium Plate Over Nickel
M	Aluminum/Electroless Nickel
N	Aluminum/Cadmium Plate/Olive Drab Over Nickel
NF	Aluminum/Cad/O. D. Over Electroless Nickel (500 Hour Salt Spray)
T	Aluminum/Cadmium Plate/Bright Dip Over Nickel
Z1	Stainless Steel/Passivate Coupling Nut Nickel - Aluminum - Bronze/Degrease



FACE VIEW
RECEPTACLE

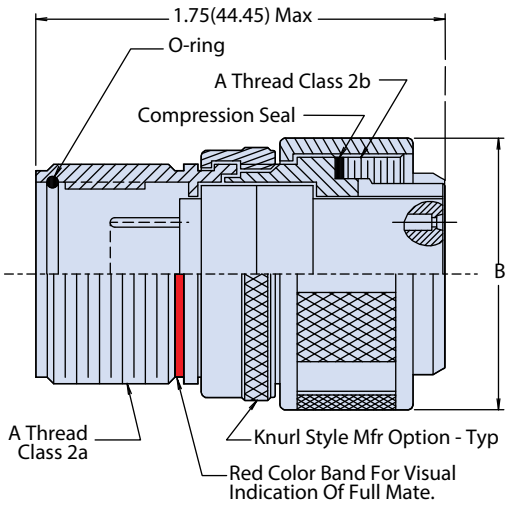
Table III: Alternate Keyway Positions					
Shell Size Desig.	N°	1°	2°	3°	4°
10	90	76	62	118	104
12	90	70	58	122	110
14	90	69	56	124	111
16	90	72	60	120	108
18	90	72	62	120	108
20	90	72	60	120	108
22	90	75	64	116	105
24	90	75	64	115	105

Table II: Contact Arrangements						
Shell Size	**Series 22 Pattern**	**Service Rating**	**Contact Size/Quantity**			
			22	**20**	**16**	**12**
10	10-2	II			2	
	10-4	I			4	
	10-6	I		6		
	10-13	M	13			
12	12-8	II			8	
	12-10	I		10		
	12-22	M	22			
14	14-4	II				4
	14-12	II			12	
	14-19	I		19		
	14-37	M	37			
16	16-6	II				6
	16-19	II			19	
	16-26	I		26		
	16-55	M	55			
18	18-8	I				8
	18-11	II			11	
	18-22	II			22	
	18-32	I		32		
	18-66	M	66			
20	20-11	II				11
	20-30	II			30	
	20-38	I	30		8	
	20-41	I		41		
	20-79	M	79			
22	22-19	II				19
	22-38	II			38	
	22-50	M	48			
	22-55	I		55		
	22-85	M	85			
24	24-24	I			16	16
	24-48	II			48	
	24-61	I		61		
	24-100	M	100			
	24-128	M	128			

Sav-Con® connector savers
Series 22 Geo-Marine connectors
940-014 High-Pressure Environmental Connector

How To Order							
Sample Part Number	**940**	**-014**	**M**	**24**	**-61**	**S**	**N**
Series No.	**940**						
Basic No.		**014**					
Finish Symbol	**B**, **J**, **M**, **N**, **NF**, **T**, **Z1** See Table I						
Shell Size				**10**, **12**, **14**, **16**, **18**, **20**, **22**, **24** See Table II			
Insert Arrangement	See Table II						
Contact Style	**P** = Pins, Plug Side **S** = Sockets, Plug Side						
Alternate Key Position	**1**, **2**, **3**, **4**, **N** = Normal; See Table III						

MATES WITH 220-006



Mates to any Geo-Marine® non-scoop proof receptacle

Dimensions		
Shell Size	**A Thread**	**B Dia**
10	.750-.1P-.1L	1.000 (25.40)
12	.875-.1P-.1L	1.125 (28.58)
14	1.000-.1P-.1L	1.250 (31.75)
16	1.125-.1P-.1L	1.375 (34.93)
18	1.250-.1P-.1L	1.594 (40.49)
20	1.375-.1P-.1L	1.719 (43.66)
22	1.500-.1P-.1L	1.894 (48.11)
24	1.625-.1P-.1L	1.969 (50.01)

NOTES

1. Assembly identified with manufacturer's name and P/N, space permitting.
2. Glenair 940-014 connector saver is designed to mate with Glenair 220-06 series Geo-Marine®connectors. (Non-scoop-proof)

MATERIAL/FINISH:

- Barrel, shell, coupling nuts - see Table II.
- Contacts - copper alloy/gold plate.
- Insulators - high grade rigid dielectric/N.A.
- O-ring & seals - silicone/N.A.

Sav-Con® connector savers
Series 22 Geo-Marine connectors
940-025 Scoop-Proof High-Pressure Connector

How To Order							
Sample Part Number	940	-025	M	16	-26	S	N
Series No.	940						
Basic No.	-025						
Finish Symbol	B, J, M, N, NF, T, Z1 See Table I						
Shell Size	10, 12, 14, 16, 18, 20, 22, 24 See Table II						
Insert Arrangement	See Table II						
Contact Style	P = Pins, Panel Side S = Sockets Panel Side						
Alternate Key Position	1, 2, 3, 4, N = Normal; See Table III						

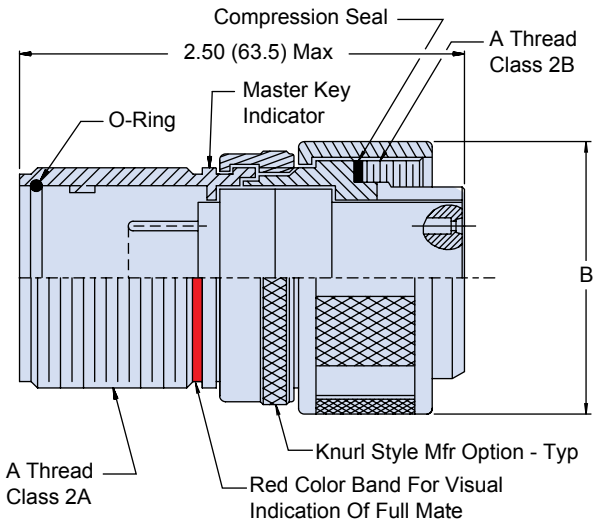
B

NOTES:

1. Assembly identified with manufacturer's name and P/N, space permitting.
2. Glenair 940-025 connector saver is designed to mate with Glenair 220-16 series Geo-Marine® connectors. (Scoop-Proof)

MATERIAL/FINISH:

- Barrel, shell, coupling nuts - see Table II.
- Contacts - copper alloy/gold plate.
- Insulators - high grade rigid dielectric/n.a.
- O-ring & seals - silicone/n.a.



MATES WITH 220-16

BETTER THAN QPL

SuperNine®: The advanced-performance MIL-DTL-38999 Series III style connector

Better than QPL? SuperNine® is the interconnect industry's most complete and advanced D38999 Series III type connector family. From IP-68 rated environmental-class connectors with improved durability and ease-of-use, to EMI/EMP filter connectors with innovative flange and PC tail termination configurations, SuperNine® offers military and commercial aerospace customers that have standardized on Series III technology the opportunity to improve interconnect system performance and resolve a wide range of persistent electrical, environmental, and mechanical performance problems —all with catalog (COTS) connector solutions backed by Glenair's high-availability business model.

Better than QPL means significant innovation in every class of connector in the series. SuperNine® hermetics for example, offer many features not available in QPL hermetic solutions, such as crimp-removable socket contacts. Our fiber optic connector series is designed and built to tight-tolerances to ensure precise alignment of fiber optic termini, and superior optical performance.

SuperNine® offers improved durability, sealing, cost-of-ownership, ease of shield termination, a broader range of PC tail configurations, environmental and hermetic bulkhead feed-throughs, connector savers, off-the-shelf EMI/EMP filter connectors and more—all supported with Glenair's well-established reputation for service, support, and fast turnaround.

THE SUPERNINE® TECHNOLOGY PROMISE

- **Across-the-board improvements in mating-cycle and contact durability**
- **Advanced ease-of-use features such as integrated band porches and PC-Tail standoffs**
- **Advanced-performance improvements in every connector class—from filters to fiber optics**

Glenair SuperNine® connectors in action: in this example, a pair of our advanced fiber optic interconnects cabled-up in a turnkey, environmentally sealed point-to-point jumper

RECTANGULAR

SAV-CON®

Rectangular Connector Savers

Connector savers for D-subminiatures, HiPer-D™ Micro-D, Nano-Miniature™ and Micro-Crimp™

Glenair Sav-Con® Connector Savers—the smart way to prevent contact damage and protect connectors for mating and unmating wear. Now available for all of our rectangular connector lines:

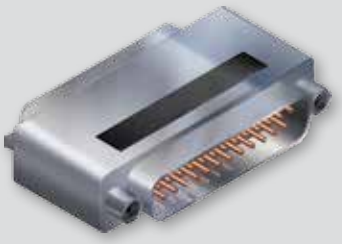
- Series 28 HiPer-D® the M24308 compatible D-subminiature for standard and high density applications
- Micro-D and Nano-Miniature™ connectors with high performance TwistPin contacts
- And Series 79 Micro-Crimp™ our high density, low profile aerospace connector.

Glenair, Inc.
1211 Air Way
Glendale, CA
91201-2497
818-247-6000
sales@glenair.com
www.glenair.com

Sav-Con® connector savers
Rectangular connectors
Selection Guide

STANDARD & FILTERED SAV-CON® CONNECTOR SAVERS FOR RECTANGLE CONNECTORS

Sav-Con® Connector Savers for Rectangular connectors, including: D-Subminiature, HiPer-D®, Micro-D, Nano-Miniature™, and Micro-Crimp®. Filtered, high density and standard versions available with standard cadmium or nickel plating or choose optional finishes such as gold or Chem Film.



D-Subminiature

HiPer-D Series 28

Series MWDM Micro-D

Series 89 Nano Miniature

Series 79 Micro-Crimp

C

Sav-Con® connector savers
D-Subminiature MIL-DTL-24308 Type
240-051 Filter Adapter

How To Order							
Sample Part Number	**240-051**	**-5H78**	**GS**	**P**	**G**	**G**	**B**

Series	**240-051**
Shell Size/ Insert Arrangement	See Table II
Shell Material/Finish	**Aluminum Shell** **ME** - Electroless Nickel **JF** - Yellow Cadmium **MT** - Nickel-PTFE **Z2** - Gold **E** - Chem Film **Brass Shell** **GS** - Gold
Filter Type	**C** - C Filter **P** - Pi Filter (See Table I)
Filter Class	**A**, **B**, **C**, **D**, **E**, **F**, **G**, **J** (See Table I)
EMI Spring	**G** - EMI Spring (Plug/Pin Only) **N** - No Spring
Hardware Option	**B** - No Hardware **P** - Combination Jackpost/Jackscrew **P1** -Fixed Jackposts, both sides

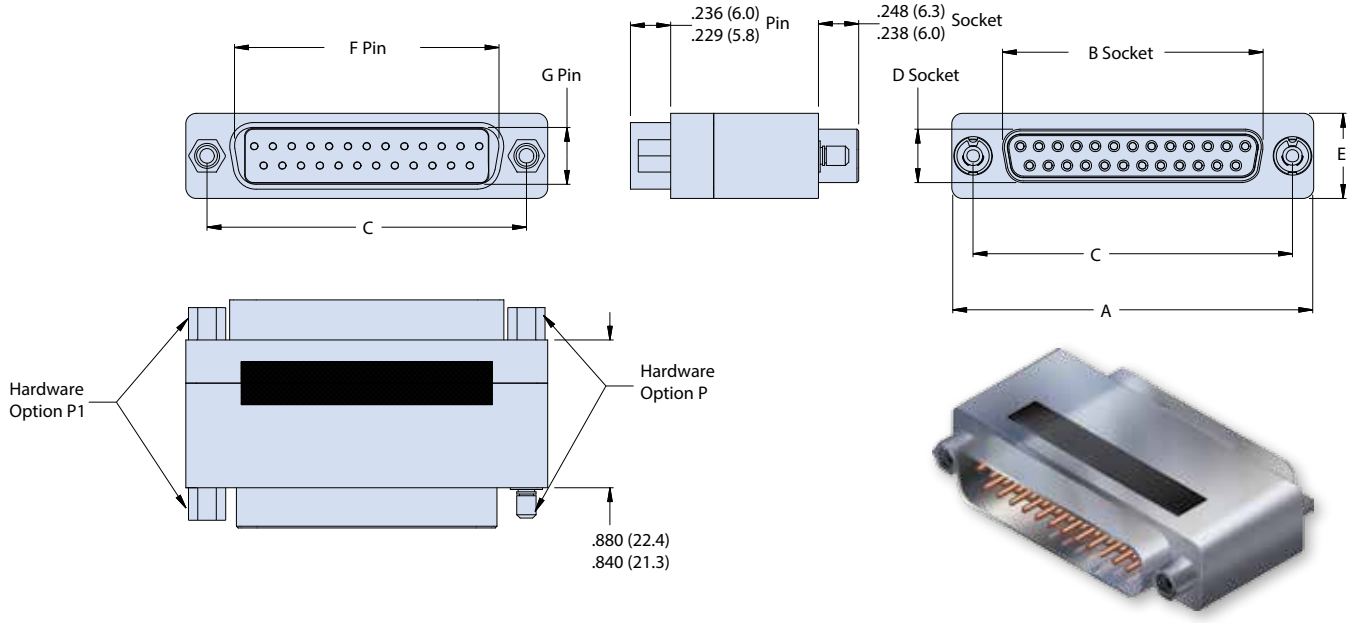


Table I: Capacitor Array Code Capacitance Range		
Class	**Pi - Circuit (pF)**	**C - Circuit (pF)**
A	38,000 - 56,000	19,000 - 28,000
B	32,000 - 45,000	16,000 - 22,500
C	18,000 - 33,000	9,000 - 16,500
D	8,000 - 12,000	4,000 - 6,000
E	3,300 - 5,000	1,650 - 2,500
F	800 - 1,300	400 - 650
G	400 - 600	200 - 300
J	70 - 120	35 - 60

NOTES

1. Assembly to be identified with Glenair's name, part number, and date code space permitting
2. Dimensions B and D taken from inside of shell for Pin/Plug and outside for Socket/Receptacle.

ELECTRICAL PERFORMANCE

- Dielectric Withstanding Voltage: 500 VDC
- Insulation Resistance: 5,000 megohms @ 200 VDC
- Current Rating Standard Density: 7.5 Amps max.
- Current Rating High Density: 5 Amps max.

MATERIALS/FINISHES

- Insulators - High Grade Rigid Dielectric/N.A.
- Contacts - Copper Alloy/Gold Plated

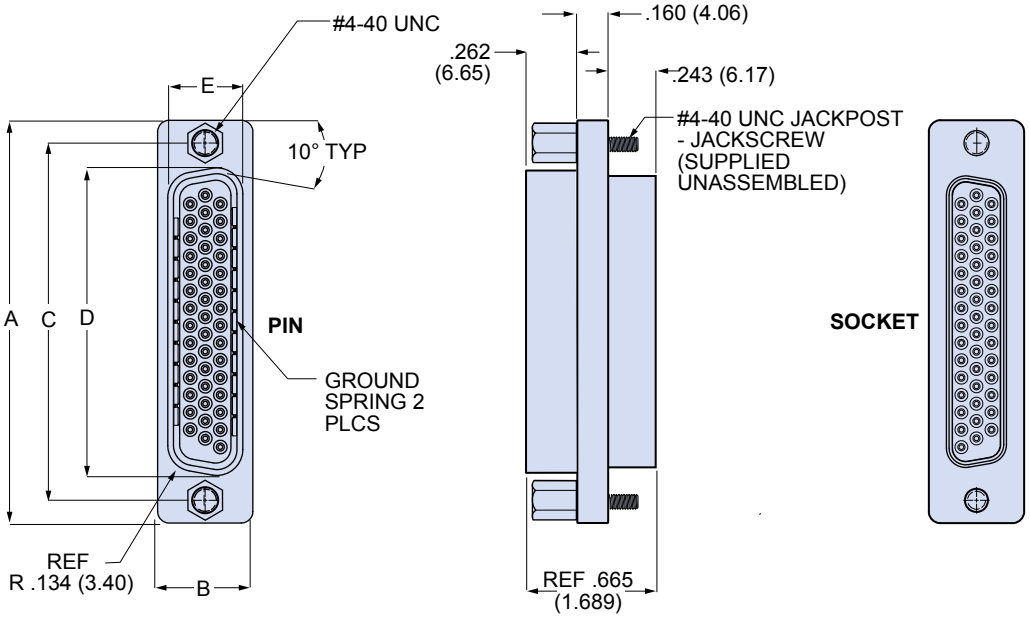
Table II: Dimensions									
Shell Size Insert Arrangement	Contact Size	Contact Qty	A ±.015	B ±.005	C ±.005	D ±.005	E ±.015	F ±.005	G ±.005
1S9	#20	9	1.243 (31.6)	0.643 (16.3)	0.984 (25.0)	0.311 (7.9)	0.494 (12.5)	0.666 (16.9)	0.329 (8.4)
1H15	#22	15							
2S15	#20	15	1.571 (39.9)	0.971 (24.7)	1.312 (33.3)	0.311 (7.9)	0.494 (12.5)	0.994 (25.2)	0.329 (8.4)
2H26	#22	26							
3S25	#20	25	2.118 (53.8)	1.511 (38.4)	1.852 (47.0)	0.311 (7.9)	0.494 (12.5)	1.534 (39.0)	0.329 (8.4)
3H44	#22	44							
4S37	#20	37	2.759 (70.1)	2.159 (54.8)	2.500 (63.5)	0.311 (7.9)	0.494 (12.5)	2.182 (55.4)	0.329 (8.4)
4H62	#22	62							
5S50	#20	50	2.665 (67.7)	2.064 (52.4)	2.406 (61.1)	0.423 (10.7)	0.605 (15.4)	2.079 (52.8)	0.441 (11.2)
5H78	#22	78							
6H104	#22	104	2.759 (70.1)	2.189 (55.6)	2.500 (63.5)	0.486 (12.3)	0.668 (17.0)	2.212 (56.2)	0.503 (12.8)

C

Sav-Con® connector savers
HiPer-D® Series 28 D-Subminiature
289-012 Standard and High Density

Sav-Con® D-Subminiature Connector Saver

Low profile one-piece machined aluminum housing and ground spring protects circuits from EMI problems. Available in standard density and high density contact arrangements. Pin mating face has fluorosilicone rubber seal. Choose electroless nickel shell finish for avionics and space applications. Choose cadmium for compatibility with cadmium or zinc plated M24308 connectors, or choose nickel-PTFE for maximum corrosion protection. Other materials and finishes available on request.



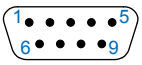
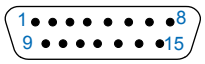
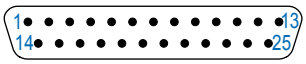
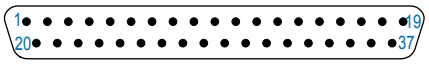
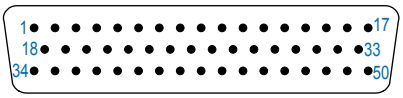
C

Dimensions										
Shell Size	A		B		C Basic		D		E	
	in ± .015	mm ± 0.38	in ± .015	mm ± 0.38	in.	mm	in ± .005	mm ± 0.13	in ± .005	mm ± 0.13
1	1.213	30.81	.494	12.55	.984	24.99	.726	18.44	.389	9.88
2	1.541	39.14	.494	12.55	1.312	33.32	1.054	26.77	.389	9.88
3	2.088	53.04	.494	12.55	1.852	47.04	1.594	40.49	.389	9.88
4	2.729	69.32	.494	12.55	2.500	63.50	2.242	56.95	.389	9.88
5	2.635	66.93	.605	15.37	2.406	61.11	2.139	54.33	.501	12.73
6	2.729	69.32	.668	16.97	2.500	63.50	2.272	57.71	.563	14.30

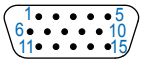
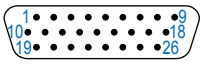
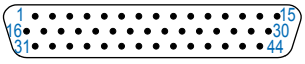
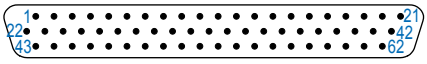
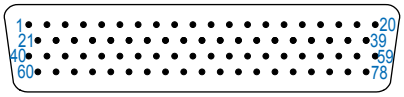
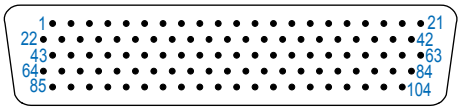
Materials and Finishes	
Shell	Aluminum alloy
Contacts	Copper alloy, 50 microinches gold plated, SST hood
insulator	Thermoset epoxy
interfacial Seal	Fluorosilicone rubber
Hardware	300 series stainless steel

Specifications	
Current Rating	#22D 5 AMPS, #20 7.5 AMPS
Test Voltage	1000 VAC RMS
Insulation Resistance	5000 megohms minimum
Operating Temperature	-65° C. to +200° C.
Ingress Protection	IP 67
Shock	300 g.
Vibration, Random	43.92 g.
Magnetic Permeability	2 µ maximum
Outgassing[1]	Postcure required to meet ASTM E595 NASA requirement

Sav-Con® connector savers
HiPer-D® Series 28 D-Subminiature
289-012 Standard and High Density

Standard Density Contact Arrangements, #20 Contacts		
		
1S9 9 #20 Contacts	**2S15** 15 #20 Contacts	**3S25** 25 #20 Contacts
		
4S37 37 #20 Contacts	**5S50** 50 #20 Contacts	
Mating face of pin connector. Socket mating face is mirror image.		

Standard Density HiPer-D Sav-Con®				
No. of Contacts	**Shell Size**	**Electroless Nickel** *Space, Avionics (ME)*	**Nickel-PTFE** *Maximum Corrosion Protection (MT)*	**Cadmium** *General Purpose (JF)*
9	1	**289-0121S9MEGR**	**289-0121S9MTGR**	**289-0121S9JFGR**
15	2	**289-0122S15MEGR**	**289-0122S15MTGR**	**289-0122S15JFGR**
25	3	**289-0123S25MEGR**	**289-0123S25MTGR**	**289-0123S25JFGR**
37	4	**289-0124S37MEGR**	**289-0124S37MTGR**	**289-0124S37JFGR**
50	5	**289-0125S50MEGR**	**289-0125S50MTGR**	**289-0125S50JFGR**

High Density Contact Arrangements, #22D Contacts		
		
1H15 15 #22D Contacts	**2H26** 26 #22D Contacts	**3H44** 44 #22D Contacts
		
4H62 62 #22D Contacts	**5H78** 78 #22D Contacts	**6H104** 104 #22D Contacts
Mating face of pin connector. Socket mating face is mirror image.		

Outgassing Note

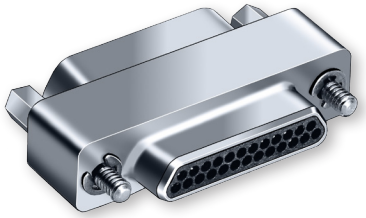
Note (1) HiPer-D Sav-Cons will not meet NASA outgassing requirements without special processing. Refer to Series 28 HiPer-D catalog, Section B "HiPer-D Connectors for Space Flight," or www.glenair.com for complete information.

High Density HiPer-D Sav-Con®				
No. of Contacts	**Shell Size**	**Electroless Nickel** *Space, Avionics (ME)*	**Nickel-PTFE** *Maximum Corrosion Protection (MT)*	**Cadmium** *General Purpose (JF)*
15	1	**289-0121H15MEGR**	**289-0121H15MTGR**	**289-0121H15JFGR**
26	2	**289-0122H26MEGR**	**289-0122H26MTGR**	**289-0122H26JFGR**
44	3	**289-0123H44MEGR**	**289-0123H44MTGR**	**289-0123H44JFGR**
62	4	**289-0124H62MEGR**	**289-0124H62MTGR**	**289-0124H62JFGR**
78	5	**289-0125H78MEGR**	**289-0125H78MTGR**	**289-0125H78JFGR**
104	6	**289-0126H104MEGR**	**289-0125H104MTGR**	**289-0125H104JFGR**

C

Sav-Con® connector savers
Micro-D connector saver
MWDM2L with TwistPin Contacts

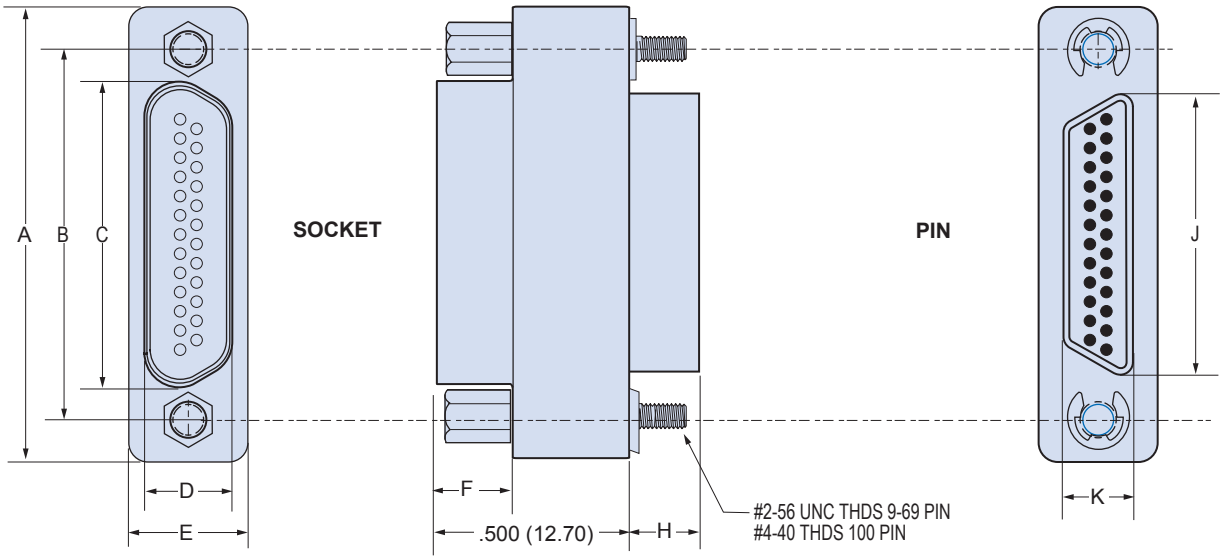
Protect Expensive Equipment with Glenair Micro-D Savers



These connector savers feature a one-piece aluminum housing, TwistPin contacts and locking hardware. Typical applications include test equipment and space-grade instruments. The Micro-D Sav-Con® prevents wear and tear on sensitive gear. Standard versions are electroless nickel plated. Other plating finishes are available on request.

- Compact Size reduces stress on mating connectors.
- In Stock, No Waiting – All standard sizes are in stock (9, 15, 21, 25, 31, 37, 51 and 100 pin).
- EMI Protected one piece shell.

Materials & Finishes	
Shell	Aluminum Alloy 6061 -T6 Electroless Nickel Plated
Contacts	Gold-Plated Copper Alloy
Encapsulant	Epoxy
Insulators	Glass-Filled LCP
Hardware	300 Series Stainless Steel, Passivated



C

Dimensions																			
Size	Part Number	A Max.		B		C Max.		D Max.		E Max.		F		H		J Max.		K Max	
		In.	mm.	In. ±.003	mm. ± 0.08	In.	mm.	In.	mm.	In.	mm.	In. ± .003	mm. ± 0.08	In. ±.003	mm. ±.08	In.	mm.	In.	mm.
9	MWDM2L-9USP1	.785	19.94	.565	14.35	.400	10.16	.250	6.35	.308	7.82	.195	4.95	.183	4.65	.333	8.46	.184	4.67
15	MWDM2L-15USP1	.935	23.75	.715	18.16	.551	14.00	.250	6.35	.308	7.82	.195	4.95	.183	4.65	.483	12.27	.184	4.67
21	MWDM2L-21USP1	1.085	27.56	.865	21.97	.701	17.81	.250	6.35	.308	7.82	.195	4.95	.183	4.65	.633	16.08	.184	4.67
25	MWDM2L-25USP1	1.185	30.01	.965	24.51	.801	20.35	.250	6.35	.308	7.82	.195	4.95	.183	4.65	.733	18.62	.184	4.67
31	MWDM2L-31USP1	1.335	33.91	1.115	28.32	.951	24.16	.250	6.35	.308	7.82	.195	4.95	.183	4.65	.883	22.43	.184	4.67
37	MWDM2L-37USP1	1.485	37.72	1.265	32.13	1.101	27.96	.250	6.35	.308	7.82	.195	4.95	.183	4.65	1.033	26.24	.184	4.67
51	MWDM2L-51USP1	1.435	36.45	1.215	30.86	1.051	26.70	.296	7.52	.351	8.92	.195	4.95	.183	4.65	.983	24.97	.228	5.79
51-2	MWDM2L-51-2USP1	1.835	46.61	1.615	41.02	1.450	36.83	.250	6.35	.308	7.82	.195	4.95	.183	4.65	1.384	35.15	.184	4.67
67	MWDM2L-67USP1	2.235	56.77	2.015	51.18	1.850	46.99	.250	6.35	.308	7.82	.195	4.95	.183	4.65	1.784	45.31	.184	4.67
69	MWDM2L-69USP1	1.735	44.07	1.515	38.48	1.350	34.29	.296	7.52	.351	8.92	.195	4.95	.183	4.65	1.284	32.61	.228	5.79
100	MWDM2L-100USP1	2.170	55.12	1.800	45.72	1.451	36.86	.333	8.46	.394	10.01	.195	4.95	.183	4.65	1.383	35.13	.270	6.86

Sav-Con® connector savers
Micro-D filtered connector saver
240-033 In-Line Filter Adapter

EMI/RFI Filter Micro-D Connector Saver

Glenair Sav-Con®, inline filter adapter, provides EMI solutions in a miniaturized M83513 type connector. These connectors feature ceramic capacitor planar arrays and ferrite inductors. Solder cups accept #26 thru #30 AWG wire, or specify oversize contacts for #24 gage wire.

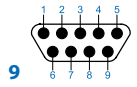
Choose PI or C Filter arrays in eighty filter classes and six layouts. Glenair filtered MIcro-D connectors comply with applicable MIL-DTL_83513 requirements and are 100% interamteable with standard connectors.

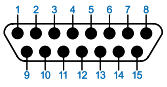
Choose 9 to 37 contacts, with standard cadmium or nickel plating on the connector housing or choose optional finishes such as gold or Chem Film.

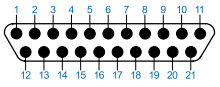
How To Order

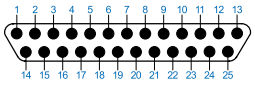
Sample Part Number	**240-033**	**-2**	**-21**	**PS**	**C**	**D**	**P**
Series	**240-033**						
Shell Finish	Aluminum Shell: **1** - Cadmium, **2** - Nickel, **4** - Black Anodize, **5** - Gold, **6** - Chem Film; Stainless Steel Shell: **3** - Passivated						
Contact Layout	**9**, **15**, **21**, **25**, **31**, **37** (See Contact Arrangements Table)						
Contact Type	**PS** - Pin/Socket						
Filter Type	**C** - C Filter **P** - Pi Filter						
Filter Class	**A**, **B**, **C**,**D**, **E**, **F**, **G**, **J** (See Filter Class and Performance Table)						
Hardware	**N** - No Hardware **P** - Combination Jackscrew and Jackpost						

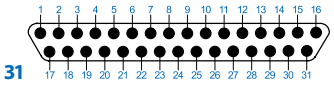
Contact Arrangements

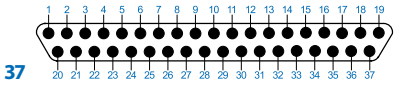












Mating Face View of Pin Connector. Socket connectors have reversed cavity numbers.

Micro-D Filter Classes and Performance

Filter Class →	**A**		**B**		**C**		**D**		**E**		**F**		**G**		**J**	
Capacitance, Picofarads (pF)																
C Filter	19000-28000		16000-22500		9000-16500		4000-6000		1650-2500		400-650		200-300		35-60	
Pi Filter	38000-56000		32000-45000		18000-33000		8000-12000		3300-5000		800-1300		400-600		70-120	
Insertion Loss, dB Minimum, 25° C.																
Filter Type →	**C**	**Pi**	**C**	**Pi**	**C**	**Pi**	**C**	**Pi**	**C**	**Pi**	**C**	**Pi**	**C**	**Pi**	**C**	**Pi**
1 MHz	6	10	5	8	3	5	—	1	—	—	—	—	—	—	—	—
10 MHz	24	40	23	35	16	25	8	14	4	8	—	2	—	0.8	—	—
100 MHz	41	62	39	60	35	57	28	50	21	40	10	15	5	13	1	4
500-1000 MHz	50	66	49	62	46	60	41	58	34	52	23	32	17	22	8	15

Sav-Con® connector savers

Series 89 Nano-Miniature™ connector saver

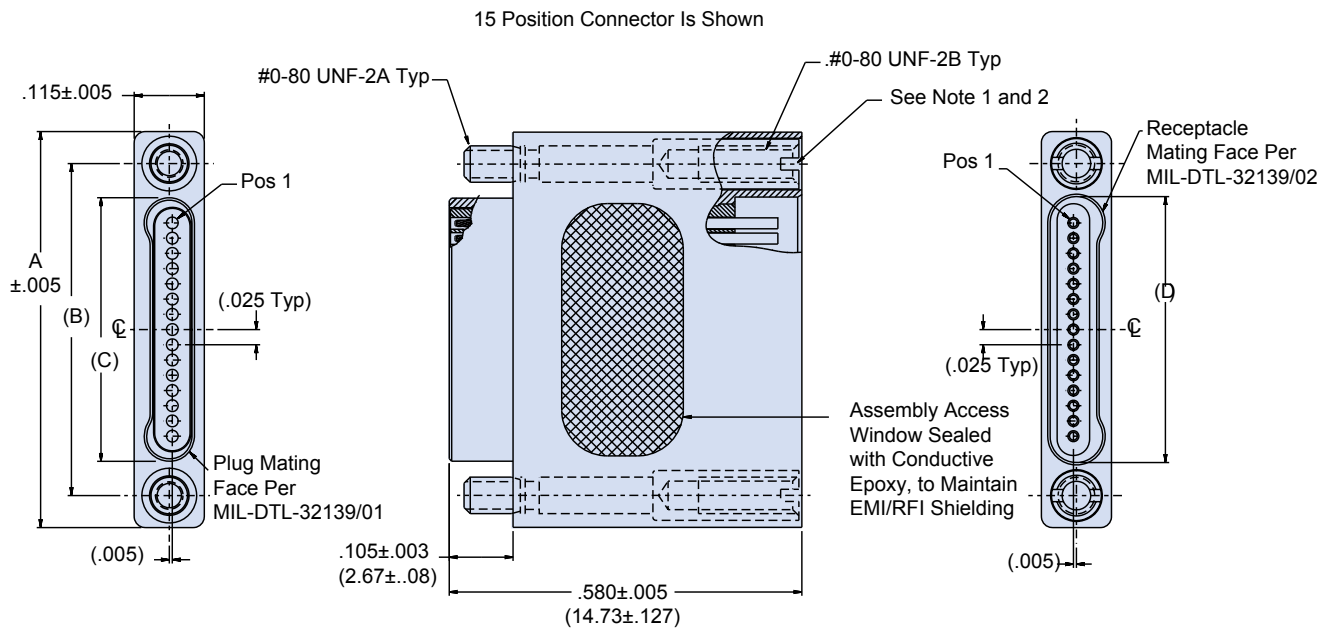
890-016 Single Row

Glenair Connector Savers reduce wear on vital contacts and eliminate downtime due to fowled or damaged connectors.

Choose 5 to 51 contacts, with standard nickel plating on the connector housing.

How To Order				
Sample Part Number	**890-016**	**-15**	**US**	**P1**
Series	**890-016**			
Number of Contacts	**5, 9, 15, 21, 25, 31, 37, 51**			
Connector Type	**US** – Plug to Receptacle One Piece Shell			
Hardware	**P1** – Permanently Installed Jackscrew/Jackpost			

Table I: Single Row Nano Connector Saver Dimensions



Number Of Contacts	A	B Ref	C Ref	D Ref
5	0.400	0.295	0.184	0.185
9	0.500	0.395	0.284	0.285
15	0.650	0.545	0.434	0.435
21	0.800	0.695	0.584	0.585
25	0.900	0.795	0.684	0.685
31	1.050	0.945	0.834	0.835
37	1.200	1.095	0.984	0.985
51	1.550	1.445	1.334	1.335

C

Sav-Con® connector savers

Series 89 Nano-Miniature™ connector saver

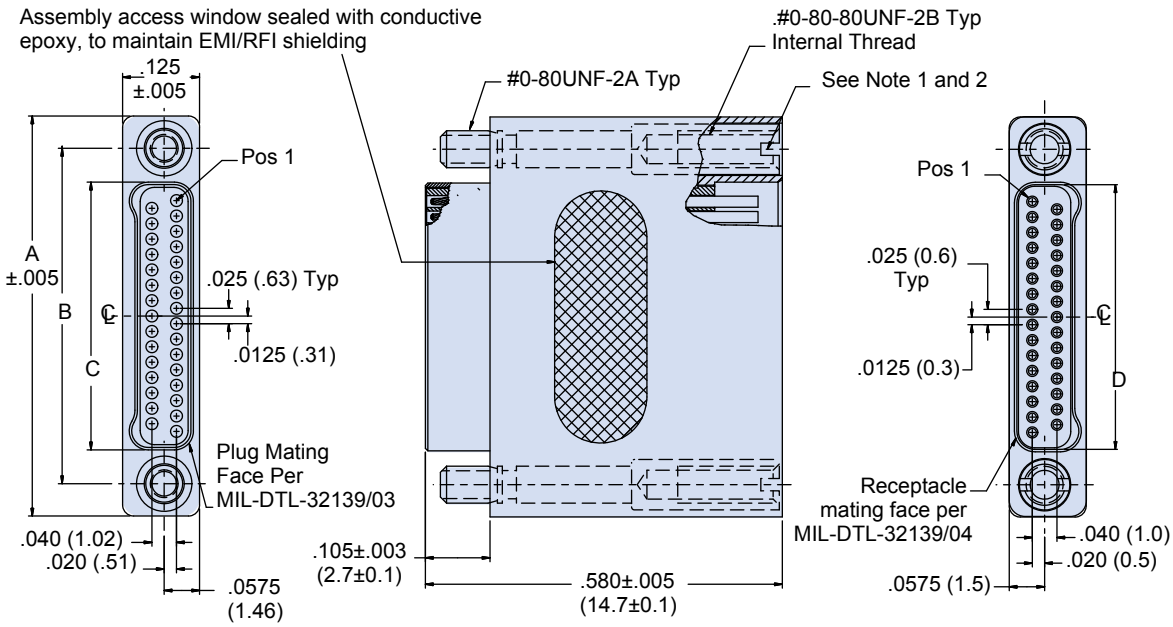
891-016 Dual Row

Glenair Connector Savers extend the life of principle connector interfaces by reducing wear and possible damage to contacts.

Choose 9 to 69 contacts, with standard nickel plating on the connector housing.

How to Order				
Sample Part Number	**891-016**	**-31**	**US**	**P1**
Series	**891-016**			
Number of Contacts	**9, 15, 21, 25, 31, 37, 51, 65, 69**			
Connector Type	**US** - Plug to Socket One Piece Shell			
Hardware	**P1** - Permanently Installed Jackscrew/Jackpost			

Dual Row Nano Connector Saver



Number of Contacts	A	B Ref	C Ref	D Ref
9	0.375 (9.5)	0.270 (6.9)	0.160 (4.1)	0.163 (4.1)
15	0.450 (11.4)	0.345 (8.8)	0.235 (6.0)	0.238 (6.0)
21	0.525 (13.3)	0.420 (10.7)	0.310 (7.9)	0.313 (8.0)
25	0.575 (14.6)	0.470 (11.9)	0.360 (9.1)	0.363 (9.2)
31	0.650 (16.5)	0.545 (13.8)	0.435 (11.0)	0.438 (11.1)
37	0.725 (18.4)	0.620 (15.7)	0.510 (13.0)	0.513 (13.0)
51	0.900 (22.9)	0.795 (20.2)	0.685 (17.4)	0.688 (17.5)
65	1.075 (27.3)	0.970 (24.6)	0.860 (21.8)	0.863 (21.9)
69	1.125 (28.6)	1.020 (25.9)	0.910 (23.1)	0.913 (23.2)

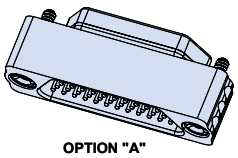
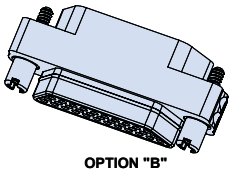
Sav-Con® connector savers

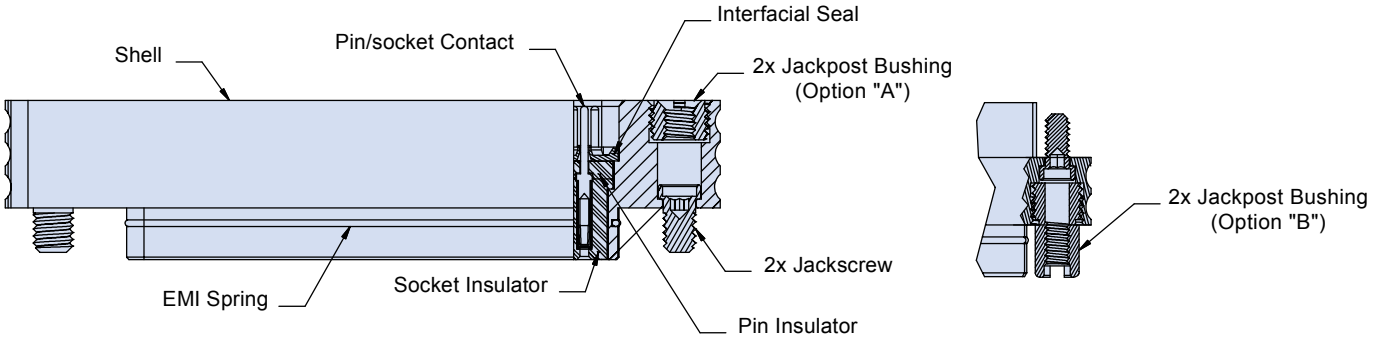
Series 79 Micro-Crimp® connector saver

799-070

Glenair Series 79 Connector Savers provide a low profile one-piece machined aluminum housing. Ground spring protects circuits from EMI problems. Pin mating face has fluorosilicone rubber seal. Choose electroless nickel shell finish for avionics and space applications. Also available with cadmium for compatibility with cadmium or zinc plated connectors, or choose nickel-PTFE for maximum corrosion protection. Other materials and finishes available on request.

How To Order

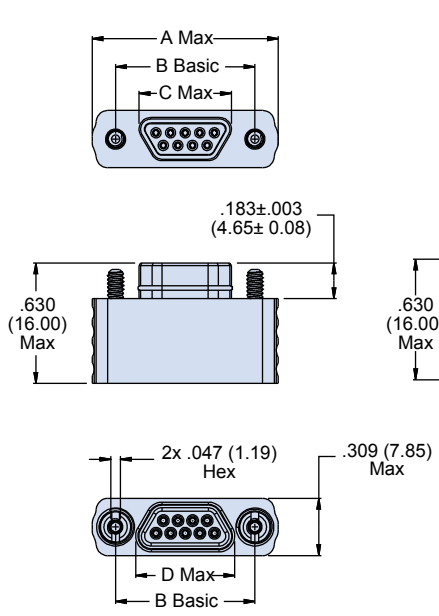
Sample Part Number	799-070	H-66	E	M	A
Series / Basic Part No.	**799-070**				
Insert Arrangement	See Micro-Crimp® Insert Arrangement Table				
RFI Spring Option	**E** - With EMI Spring **N** - No EMI Spring				
Shell Finish	**M** - electroless Nickel **MT** - Teflon Nickel **E** - Chemfilm **Z2** - Gold **UC** - Zinc Colbalt with Black Chromate **J** - Cadmium with Yellow Chromate **NF** - Cadmium with Olive Drab Chromate				
Configuration Option	 OPTION "A"  OPTION "B"				



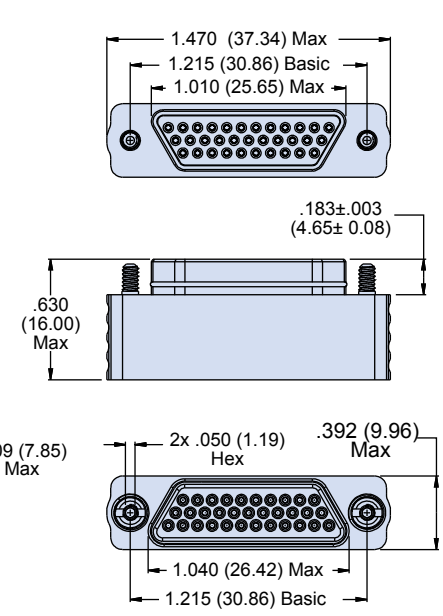
Sav-Con® connector savers

Series 79 Micro-Crimp® connector saver

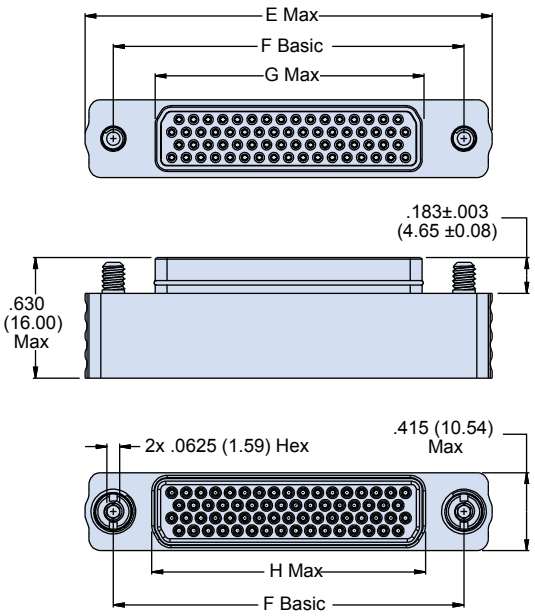
799-070 Configuration A Dimensions



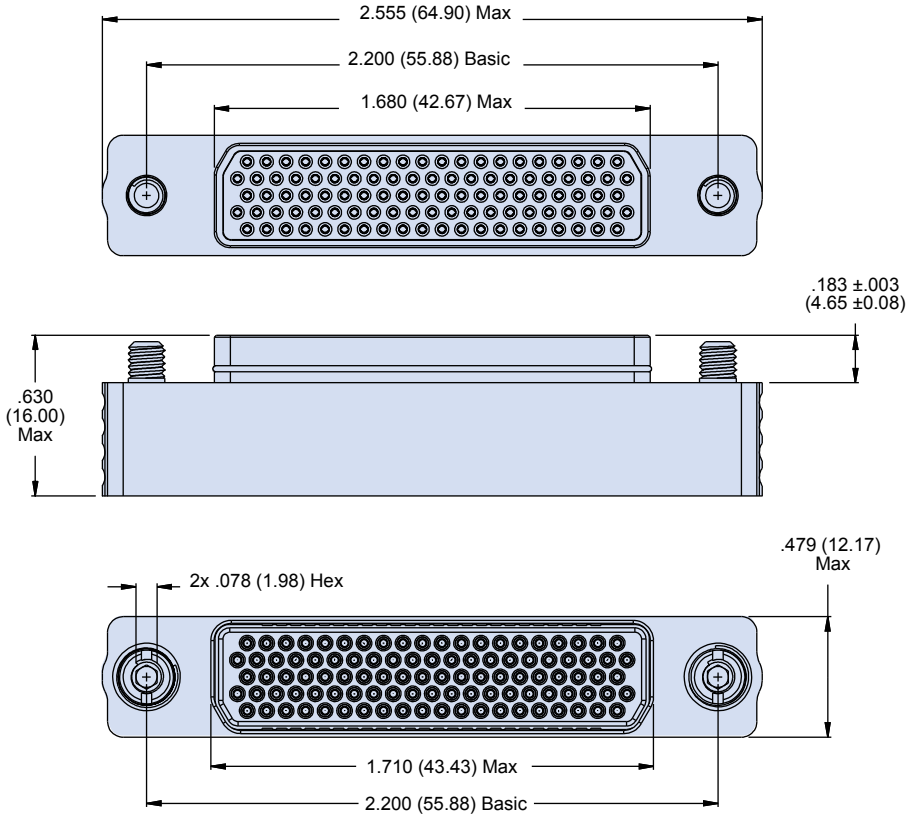
Shell Sizes A,B,C,D,E,F,J,K



Shell Size G



Shell Size H And L



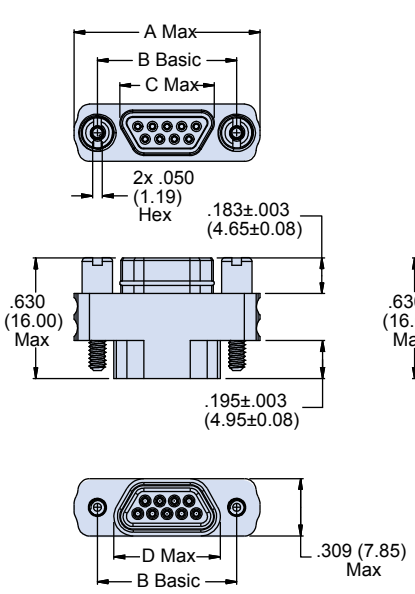
Shell Size M

C

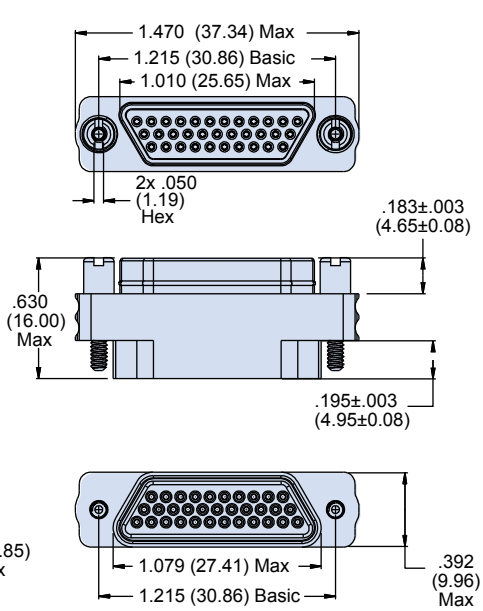
Sav-Con® connector savers

Series 79 Micro-Crimp® connector saver

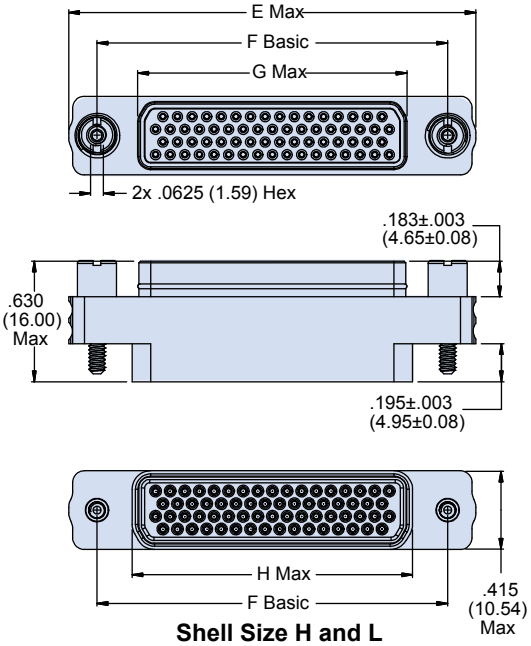
799-070 Configuration B Dimensions



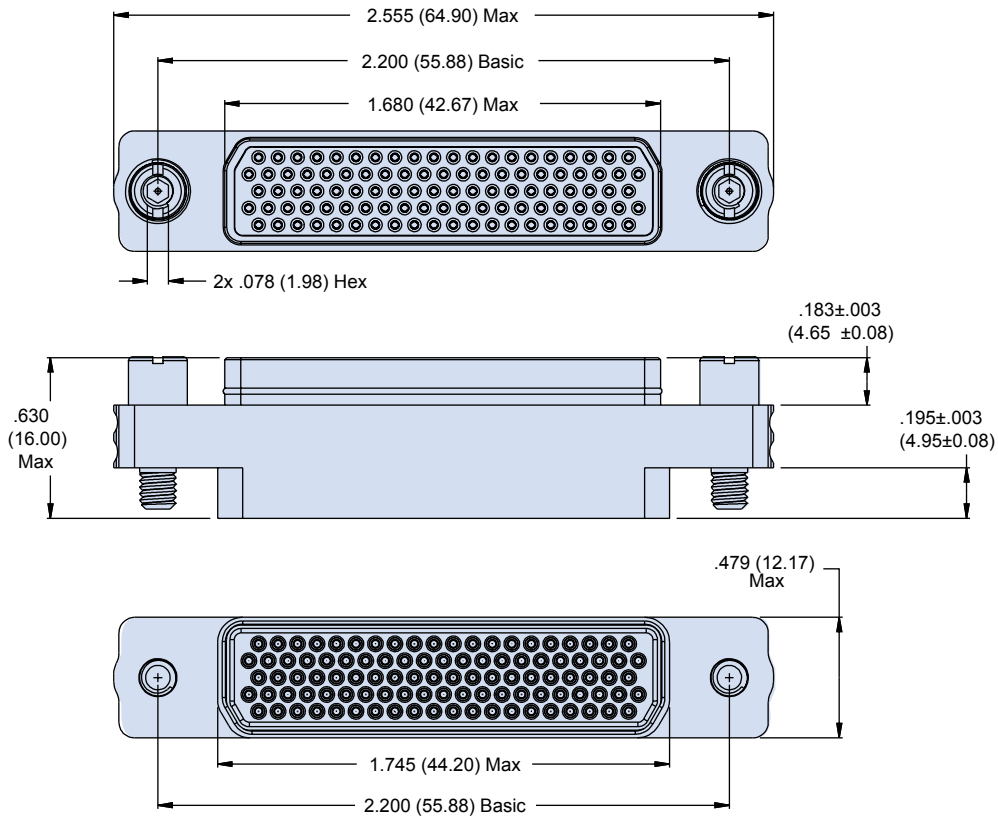
Shell Sizes A,B,C,D,E,F,J,K



Shell Size G



Shell Size H and L



Shell Size M

C

Sav-Con® connector savers

Series 79 Micro-Crimp® connector saver

799-070 Configuration A and B Dimensions

Option A Configuration Dimensions																
Shell Size	A Max		B Basic		C Max		D Max		E Max		F Basic		G Max		H Max	
	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.
A	0.820	20.83	0.565	14.35	0.335	8.51	0.365	9.27	-	-	-	-	-	-	-	-
B	0.970	24.64	0.715	18.16	0.485	12.32	0.515	13.08	-	-	-	-	-	-	-	-
C	1.120	28.45	0.865	21.97	0.635	16.13	0.665	16.89	-	-	-	-	-	-	-	-
D	1.220	30.99	0.965	24.51	0.735	18.67	0.765	19.43	-	-	-	-	-	-	-	-
E	1.370	34.80	1.115	28.32	0.885	22.48	0.915	23.23	-	-	-	-	-	-	-	-
F	1.520	38.61	1.265	32.13	1.035	26.39	1.065	27.05	-	-	-	-	-	-	-	-
H	-	-	-	-	-	-	-	-	2.105	53.48	1.800	45.72	1.385	35.18	1.415	35.94
J	1.880	47.75	1.615	41.02	1.390	35.61	1.420	36.07	-	-	-	-	-	-	-	-
K	2.275	57.78	2.015	51.18	1.795	45.59	1.823	46.30	-	-	-	-	-	-	-	-
L	-	-	-	-	-	-	-	-	2.341	59.46	2.036	51.71	1.623	41.22	1.651	41.94

Option B Configuration Dimensions																
Shell Size	A Max		B Basic		C Max		D Max		E Max		F Basic		G Max		H Max	
	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.
A	0.820	20.83	0.565	14.35	0.335	8.51	0.455	11.56	-	-	-	-	-	-	-	-
B	0.970	24.64	0.715	18.16	0.485	12.32	0.555	14.10	-	-	-	-	-	-	-	-
C	1.120	28.45	0.865	21.97	0.635	16.13	0.705	17.91	-	-	-	-	-	-	-	-
D	1.220	30.99	0.965	24.51	0.735	18.67	0.805	20.45	-	-	-	-	-	-	-	-
E	1.370	34.80	1.115	28.32	0.885	22.48	0.955	24.26	-	-	-	-	-	-	-	-
F	1.520	38.61	1.265	32.13	1.035	26.39	1.105	28.07	-	-	-	-	-	-	-	-
H	-	-	-	-	-	-	-	-	2.105	53.48	1.800	45.72	1.385	35.18	1.450	36.83
J	1.880	47.75	1.615	41.02	1.390	35.61	1.460	37.08	-	-	-	-	-	-	-	-
K	2.275	57.78	2.015	51.18	1.795	45.59	1.860	47.24	-	-	-	-	-	-	-	-
L	-	-	-	-	-	-	-	-	2.341	59.46	2.036	51.71	1.623	41.22	1.686	42.82

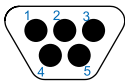
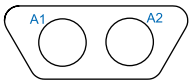
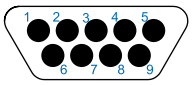
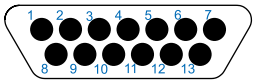
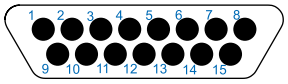
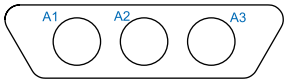
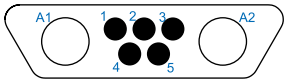
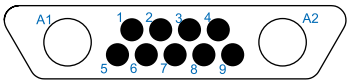
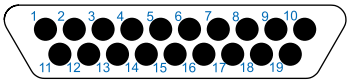
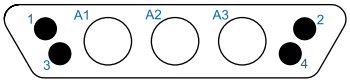
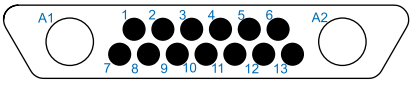
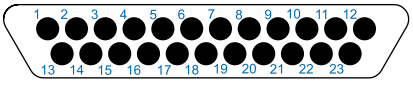
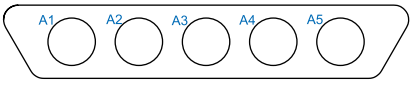
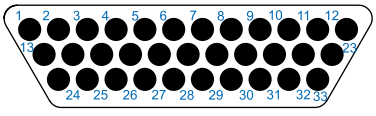
C

Sav-Con® connector savers

Series 79 Micro-Crimp® connector saver

799-070 Insert Arrangements

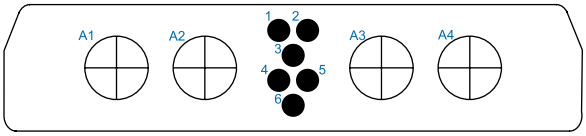
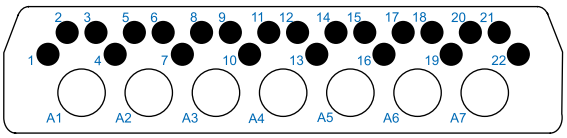
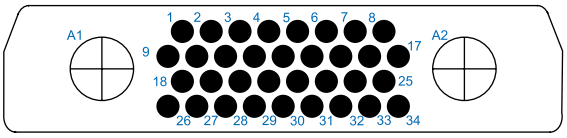
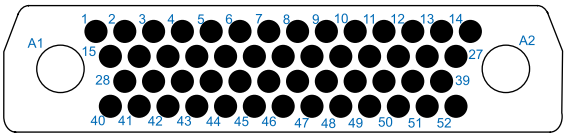
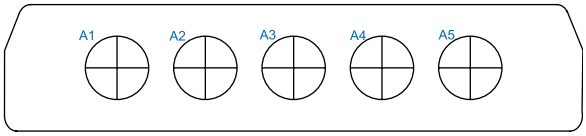
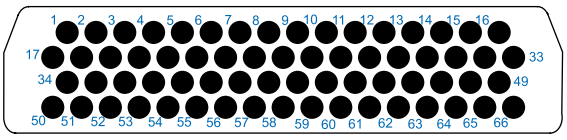
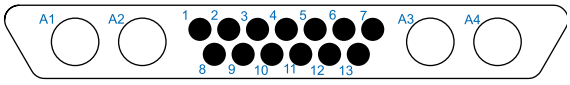
For insert arrangements in **blue** size #12 and #16 contacts are purchased separately

Micro-Crimp Insert Arrangements			
Shell Size	**Contact Arrangement**	**No. of Contacts and Contact Size**	**Mating Face Pin Connector (Socket Numbers are Reversed)**
A	A-5	5 #23 contacts	
B	B-2P2 **B-2W2**	2 #16 contacts	
B	B-9	9 #23 contacts	
C	C-13	13 #23 contacts	
D	D-15	15 #23 CONTACTS	
D	D-3P3 **D-3W3**	3 #16 CONTACTS	
D	D-7P2 **D-7W2**	5 #23 CONTACTS 2 #16 CONTACTS	
E	E-11P2 **E-11W2**	9 #23 CONTACTS 2 #16 CONTACTS	
E	E-19	19 #23 CONTACTS	
E	E-7P3 **E-7W3**	4 #23 CONTACTS 3 #16 CONTACTS	
F	F-15P2 **F-15W2**	13 #23 CONTACTS 2 #16 CONTACTS	
F	F-23	23 #23 CONTACTS	
F	F-5P5 **F-5W5**	5 #16 CONTACTS	
G	G-33	33 #23 CONTACTS	

C

Sav-Con® connector savers
Series 79 Micro-Crimp® connector saver
799-070 Insert Arrangements

For insert arrangements in **blue** size #12 and #16 contacts are purchased separately

Micro-Crimp Insert Arrangements			
Shell Size	**Contact Arrangement**	**No. of Contacts and Contact Size**	**Mating Face Pin Connector (Socket Numbers are Reversed)**
H	H-10P4 **H-10W4**	6 #23 CONTACTS 4 #12 CONTACTS	
H	H-29P7 **H-29W7**	22 #23 CONTACTS 7 #16 CONTACTS	
H	H-36P2 **H-36W2**	34 #23 CONTACTS 2 #12 CONTACTS	
H	H-54P2 **H-54W2**	52 #23 CONTACTS 2 #16 CONTACTS	
H	H-5P5 **H-5W5**	5 #12 CONTACTS	
H	H-66	66 #23 CONTACTS	
J	J-17P4 **J-17W4**	13 #23 contacts 4 #16 contacts	

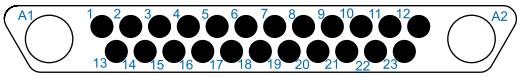
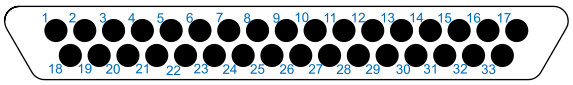
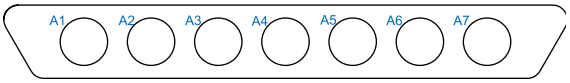
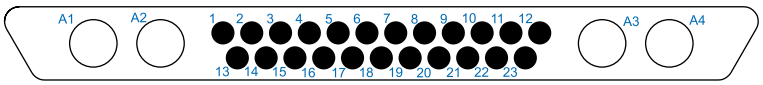
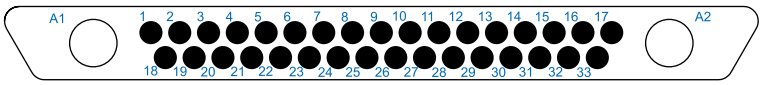
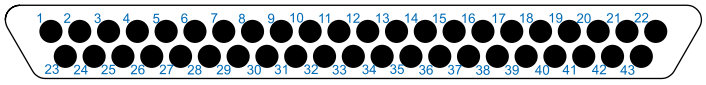
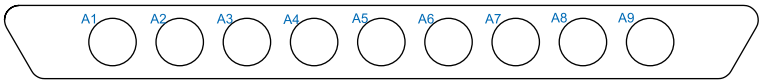
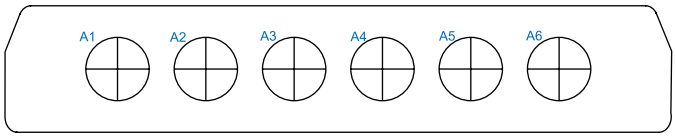
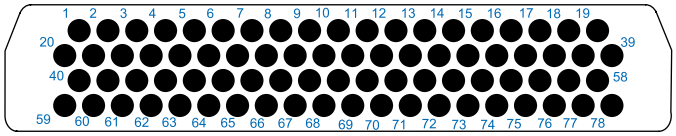
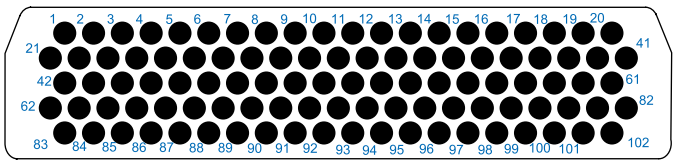
C

Sav-Con® connector savers

Series 79 Micro-Crimp® connector saver

799-070 Insert Arrangements

For insert arrangements in **blue** size #12 and #16 contacts are purchased separately

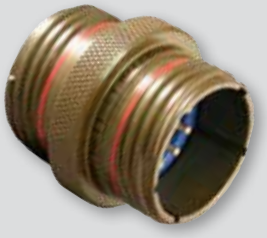
Micro-Crimp Insert Arrangements			
Shell Size	**Contact Arrangement**	**No. of Contacts and Contact Size**	**Mating Face Pin Connector (Socket Numbers are Reversed)**
J	J-25P2 **J-25W2**	23 #23 contacts 2 #16 contacts	
J	J-33	33 #23 contacts	
J	J-7P7 **J-7W7**	7 #16 contacts	
K	K-27P4 **K-27W4**	23 #23 contacts 4 #16 contacts	
K	K-35P2 **K-35W2**	33 #23 contacts 2 #16 contacts	
K	K-43	43 #23 contacts	
K	K-9P9 **K-9W9**	9 #16 contacts	
L	L-6P6 **L-6W6**	6 #12 contacts	
L	L-78	78 #23 CONTACTS	
M	M-102	102 #23 CONTACTS	

C

Sav-Con® connector savers
Gender Changers
Selection Guide

SAV-CON® GENDER CHANGERS FOR MISMATCHED CABLE ISSUES

Glenair Sav-Con®, connector savers also offer special purpose gender changers to address mis-matched cable issues.



MIL-DTL-38999 Series III Type In-Line Gender Changer

HiPer-D Gender Changer

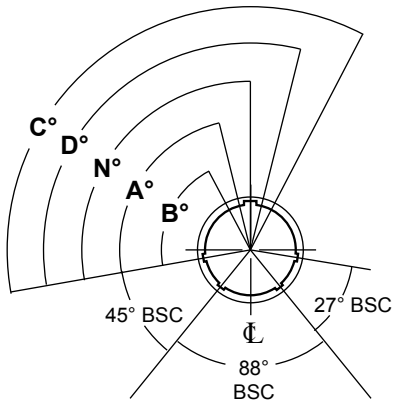
D

Sav-Con® connector savers
MIL-DTL-38999 Series I
Reference Information

Table I: Material and Finish		
Plating Code	Material	Finish
M	Aluminum	Electroless Nickel
B		Cad Plate, Olive Drab
NF		Cadmium Plate Olive Drab over Electroless Nickel
NC		Zinc-Cobalt
ZN		Olive Drab Zinc-Nickel
MT		Ni-PTFE 1000 Hour Grey™ (Nickel Flourocarbon Polymer)
ZR		Zinc NIckel, Black
ME		Electroless Nickel (RoHS)

Table II: Shell Size-Insert Arrangement					
Shell Size Desig.	Insert Arr. Dash No.	Contact Size and Qty			
		22	20	16	12
9	9-3		3		
	9-44	4			
	9-35	6			
	9-98		3		
11	11-2			2	
	11-4		4		
	11-5		5		
	11-6		6		
	11-35	13			
	11-98		6		
	11-99		7		
13	13-4			4	
	13-8		8		
	13-35	22			
	13-98		10		
15	15-5			5	
	15-15		14	1	
	15-18		18		
	15-19		19		
	15-35	37			
	15-97		8	4	
17	17-6				6
	17-8			8	
	17-26		26		
	17-35	55			
	17-99		21	2	
19	19-11			11	
	19-28		26	2	
	19-30		29	1	
	19-32		32		
	19-35	66			
	19-45	67			

Table II: Shell Size-Insert Arrangement					
Shell Size Desig.	Insert Arr. Dash No.	Contact Size and Qty			
		22	20	16	12
21	21-35	79			
	21-11				11
	21-16			16	
	21-24		24		
	21-25		25		
	21-27		27		
	21-39		37	2	
	21-41		41		
23	23-35	100			
	23-2	85			
	23-21			21	
	23-32		32		
	23-34		34		
	23-36		36		
	23-53		53		
	23-55		55		
	23-97			16	
	23-99			11	
25	25-2	100			
	25-4		48	8	
	25-19				19
	25-24			12	12
	25-29			29	
	25-35	128			
	25-43		23	20	
	25-61		61		



FACE VIEW
RECEPTACLE

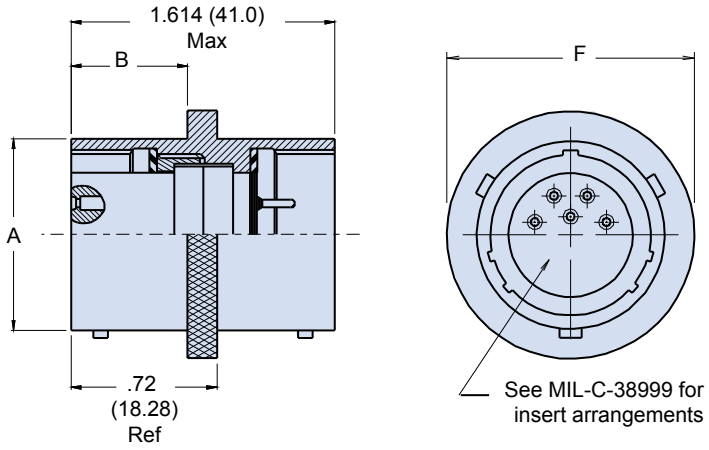
Table III: Alternate Keyway Positions					
Shell Size Desig.	N°	A°	B°	C°	D°
9	95	77	-	-	113
11	95	81	67	123	109
13	95	75	63	127	115
15	95	74	61	129	116
17	95	77	65	125	113
19	95	77	65	125	113
21	95	77	65	125	113
23	95	80	69	121	110
25	95	69	69	121	110

D

Sav-Con® connector savers
MIL-DTL-38999 Series I
GC443 In-Line Bayonet Coupling Gender Changer

HOW TO ORDER						
Sample Part Number		**GC443**	**-A**	**NF**	**21-35**	**B**
Series	**GC443**					
Style	**A** - In-line					
Finish	See Table I					
Shell Size	See Table II					
Alternate Key Position	**A**, **B**, **C**, **D**, Omit for Normal; See Table III					

Syle A In-Line



Dimensions						
Shell Size	**A Dia Max**	**B**	**C +.010-.005 (+0.3-0.1)**	**D Dim**	**E Dim ±.020(0.5)**	**F Dia Max**
09	.573(14.6)	.632(16.1)	.128(3.3)	.719(18.3)	.938(23.8)	.859(21.8)
11	.701(17.8)	.632(16.1)	.128(3.3)	.812(20.6)	1.031(26.2)	.984(25.0)
13	.851(21.6)	.632(16.1)	.128(3.3)	.906(23.0)	1.125(28.6)	1.156(29.4)
15	.976(24.8)	.632(16.1)	.128(3.3)	.969(24.6)	1.219(31.0)	1.281(32.5)
17	1.101(28.0)	.632(16.1)	.128(3.3)	1.062(27.0)	1.312(33.3)	1.406(35.7)
19	1.208(30.7)	.632(16.1)	.128(3.3)	1.156(29.4)	1.438(36.5)	1.516(38.5)
21	1.333(33.9)	.602(15.3)	.147(3.7)	1.250(31.8)	1.562(39.7)	1.641(41.7)
23	1.458(37.0)	.602(15.3)	.147(3.7)	1.375(34.9)	1.688(42.9)	1.766(44.9)
25	1.583(40.2)	.602(15.3)	.147(3.7)	1.500(38.1)	1.812(46.0)	1.891(48.0)

MATERIAL/FINISH:

- Shell assembly—Al alloy/see 38999 Reference Information section Table I
- Bayonet pins—CRES/passivate
- Contacts—copper alloy/gold plate
- Insulators—high-grade rigid dielectric/N.A.
- Interfacial & peripheral seals—silicone/ N.A.

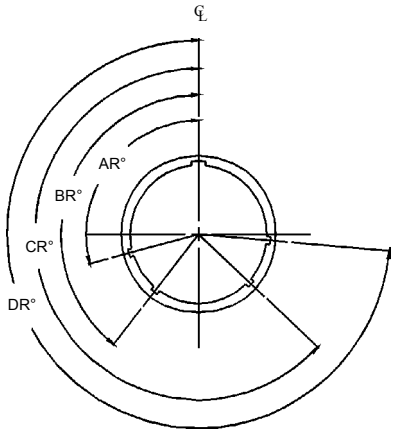
D

Sav-Con® connector savers
MIL-DTL-38999 Series III
Reference Information

Table I: Material and Finish		
Plating Code	Material	Finish
M	Aluminum	Electroless Nickel
B		Cad Plate, Olive Drab
NF		Cadmium Plate Olive Drab over Electroless Nickel
NC		Zinc-Cobalt
ZN		Olive Drab Zinc-Nickel
MT		Ni-PTFE 1000 Hour Grey™ (Nickel Flourocarbon Polymer)
ZR		Zinc NIckel, Black
ME		Electroless Nickel (RoHS)

Table II: Shell Size - Insert Arr						
Shell Size Code	Shell Size Ref.	Insert Arr. Dash No.	Contact Size			
			22	20	16	12
A	9	9-3		3		
		9-35	6			
		9-44	4			
		9-98		3		
B	11	11-2			2	
		11-4		4		
		11-5		5		
		11-6		6		
		11-35	13			
		11-98		6		
		11-99		7		
C	13	13-4			4	
		13-8		8		
		13-35	22			
		13-98		10		
D	15	15-5			5	
		15-15		14	1	
		15-18		18		
		15-19		19		
		15-35	37			
		15-97		8	4	
E	17	17-6				6
		17-8			8	
		17-26		26		
		17-35	55			
		17-99		21	2	
F	19	19-11			11	
		19-28		26	2	
		19-30		29	1	
		19-32		32		
		19-35	66			
		19-45	67			

Table II: Shell Size - Insert Arr						
Shell Size Code	Shell Size Ref.	Insert Arr. Dash No.	Contact Size			
			22	20	16	12
G	21	21-35	79			
		21-11				11
		21-16			16	
		21-24		24		
		21-25		25		
		21-27		27		
		21-39		37	2	
		21-41		41		
H	23	23-35	100			
		23-2	85			
		23-21			21	
		23-32		32		
		23-34		34		
		23-36		36		
		23-53		53		
		23-55		55		
		23-97			16	
		23-99			11	
J	25	25-2	100			
		25-4		48	8	
		25-19				19
		25-24			12	12
		25-29			29	
		25-35	128			
		25-43		23	20	
		25-61		61		



FACE VIEW
RECEPTACLE INSERT

Table III: Alternate Keyway Positions						
Shell Size Code	Shell Size Ref	Alt. Keyway Code	AR°	BR°	CR°	DR°
A	09	N	105	140	215	265
		A	102	132	248	320
		B	80	118	230	312
		C	35	140	205	275
		D	64	155	234	304
		E	91	131	197	240
B	11	N	95	141	208	236
		A	113	156	182	292
		B	90	145	195	252
C	13	C	53	156	220	255
		D	119	146	176	298
D	15	E	51	141	184	242

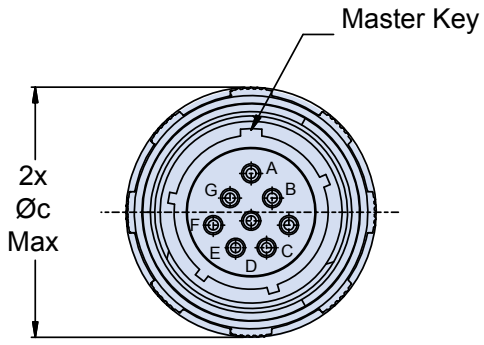
Table III: Alternate Keyway Positions						
Shell Size Code	Shell Size Ref	Alt. Keyway Code	AR°	BR°	CR°	DR°
E	17	N	80	142	196	293
		A	135	170	200	310
		B	49	169	200	244
F	19	C	66	140	200	257
		D	62	145	180	280
		E	79	153	197	272
G	21	N	80	142	196	293
		A	135	170	200	310
		B	49	169	200	244
H	23	C	66	140	200	257
		D	62	145	180	280
J	25	E	79	153	197	272

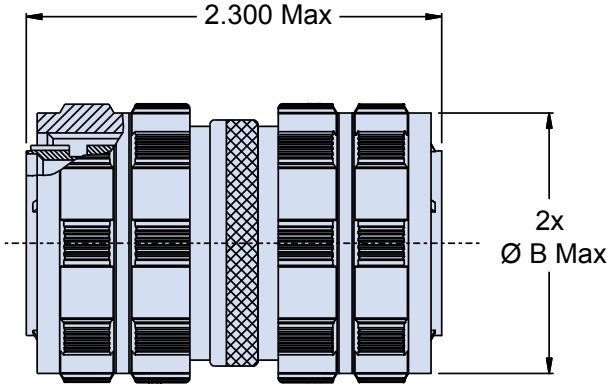
D

Sav-Con® connector savers
MIL-DTL-38999 Series III
233-214 SuperNine® Plug/Plug In-Line Gender Changer

How To Order							
Sample Part Number	**233-214**	**-NF**	**17-8**	**P**	**N**	**S**	**N**

Series / Basic Part No.	**233-214**
Finish	**NF** = Cadmium Olive Drab **ME** = Electroless Nickel **MT** = Nickel PTFE **ZR** = Black Zinc Nickel
Shell Size - Insert Arrangement	See Table II
Contact Style (Plug Side)	**P** = Pin, gold, 500 cyles **S** = Socket, gold, 500 cycles
Alternate Polarization (Plug Side)	**A**, **B**, **C**, **D**, **E**, **N** = Normal, **U** = Universal; See Note 5
Contact Style (Opposite Plug Side)	**P** = Pin, gold, 500 cyles **S** = Socket, gold, 500 cycles
Alternate Polarization (Opposite Plug Side)	**A**, **B**, **C**, **D**, **E**, **N** = Normal, **U** = Universal; Review Note 5 See Table II





NOTES

1. Glenair 233-214 connector savers are designed to meet or exceed the mechanical dimensional, electrical, and environments, requirements of MIL-DTL-38999, D38999/20 and /24 and MIL-STD-1560 except as shown and /or noted. Glenair connector savers mate with any QPL manufacturer's MIL-DTL-38999, series III plugs and receptacles have the same shell size, insert arrangement, and polarization.
2. For pin/pin and socket/socket, symmetrical layout only.
3. Power to a given contact on one end will result in power to a contact directly opposite, regardless of identification letter.
4. Electrical safety limits must be established by user. Peak voltage, switching surge, transient, etc. should be used to determine the safety application.
5. Alternate polarization 'U' (universal) is a non-standard/non-mill-spec option intended for test lab use only which allows for mating to any QPL manufacturer's MIL-DTL-38999, series III connector having the same shell size, insert arrangement, and mating contact size. Universal connectors are intended for use in testing facilities only and should be highly evaluated before consideration in another environment.

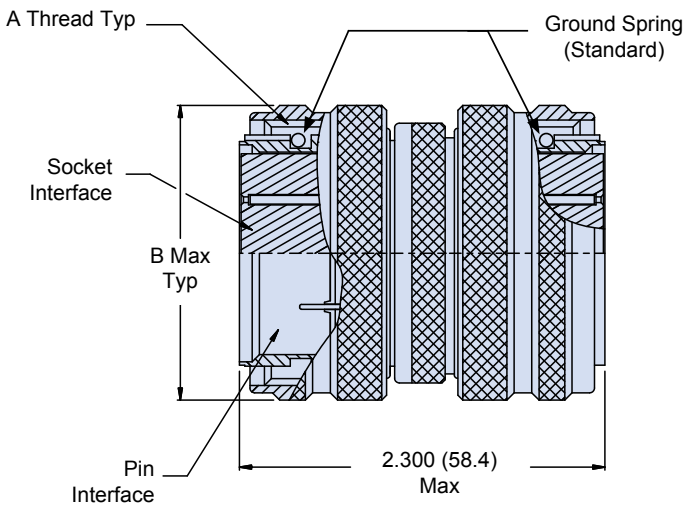
Dimensions			
Shell Size Code	**Shell Size**	**ØB Max**	**ØC Max**
A	9	0.811 (20.6)	0.858 (21.8)
B	11	0.929 (23.6)	0.984 (25.0)
C	13	1.110 (28.2)	1.157 (29.4)
D	15	1.232 (31.3)	1.280 (32.5)
E	17	1.358 (34.5)	1.406 (35.7)
F	19	1.469 (37.3)	1.516 (38.5)
G	21	1.594 (40.5)	1.642 (41.7)
H	23	1.720 (43.7)	1.768 (44.9)
J	25	1.843 (46.8)	1.890 (48.0)

D

Sav-Con® connector savers
MIL-DTL-38999 Series III
947-221 Plug/Plug In-Line Gender Changer

How To Order					
Sample Part Number	**947-221**	**NF**	**15-35**	**PP**	**A**
Series	**947-221**				
Finish	See Table I				
Shell Size - Insert Arrangement	See Table II				
Contact Type	**PP** = Pins/Pin Contacts **SS** = Sockets/Socket Contacts **PS** = Pin/Socket Contacts				
Alternate Key Position	**A**, **B**, **C**, **D**, **E**, **N** = Normal; See Table III				

Dimensions		
Shell Size	**A Thread 0.1 P-0.3L-Ts-2**	**B Dia Max**
09	0.6250	.859(21.8)
11	0.7500	.969(24.6)
13	0.8750	1.141(29.0)
15	1.0000	1.266(32.2)
17	1.1875	1.391(35.3)
19	1.2500	1.500(38.1)
21	1.3750	1.625(41.3)
23	1.5000	1.750(44.5)
25	1.6250	1.875(47.6)



NOTES

1. Assembly features straight-thru double-ended contacts, power to a given contact on one end will result in power to contact directly opposite, regardless of identification.
2. Symetrical layout only, consult factory for available insert arrangements.

MATERIAL/FINISH:

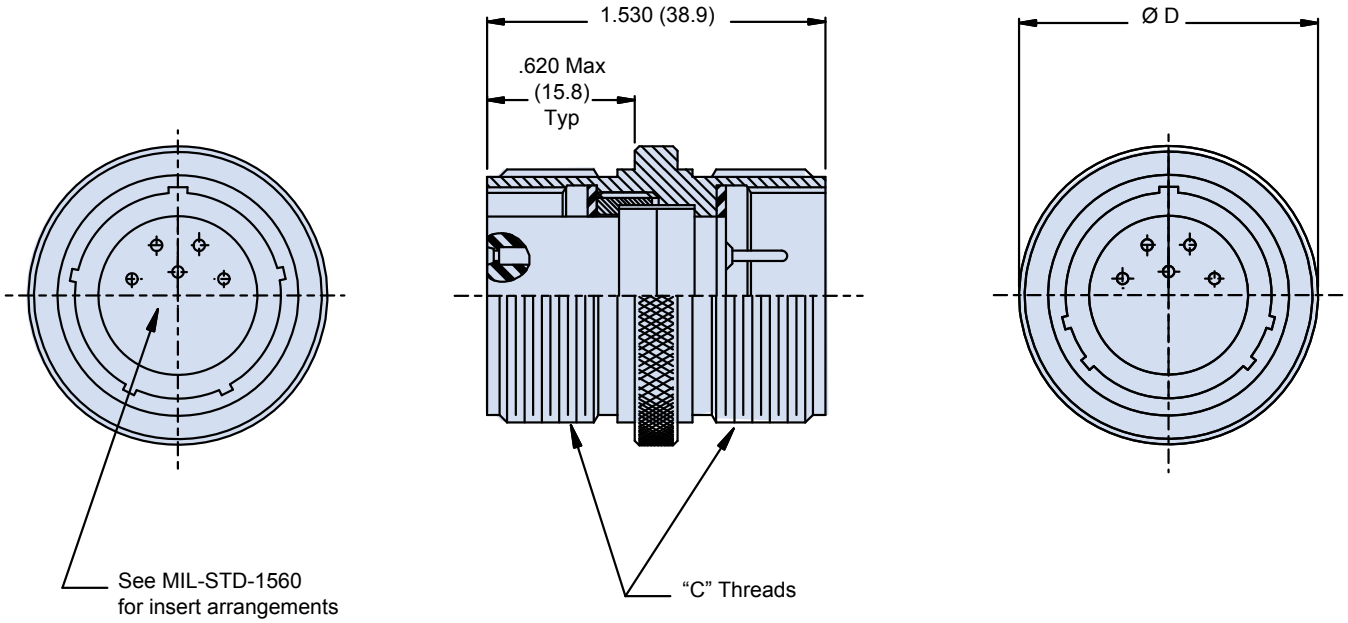
- Barrel, adapter, junction nuts, coupling nuts—Al alloy/see 38999 Reference Information section Table I
- Insulators—high grade rigid dielectric/N.A.
- Contacts—copper alloy/gold plate

D

Sav-Con® connector savers
MIL-DTL-38999 Series III
947-139 Receptacle In-Line Gender Changer

HOW TO ORDER							
Sample Part Number	**947-139**	**J**	**21-35**	**S**	**E**	**P**	**N**

Series	**947-139**	
Finish	See Table I	
Shell Size - Insert Arrangement	See Table II	
Contact Type (Side "A")	**S** = Sockets	**P** = Pins
Alternate Key Position	**A, B, C, D, E** See Table, Table III	**N** = Normal;
Contact Type (Side "B")	**S** = Sockets	**P** = Pins
Alternate Key Position	**A, B, C, D, E** See Table III	**N** = Normal;



Dimensions		
Shell Size	**C Thread**	**Ø D Max**
09	.625-1P-.3L-2A	.859
11	.750-1P-.3L-2A	.984
13	.875-1P-.3L-2A	1.156
15	1.000-1P-.3L-2A	1.281
17	1.187-1P-.3L-2A	1.406
19	1.250-1P-.3L-2A	1.516
21	1.375-1P-.3L-2A	1.641
23	1.500-1P-.3L-2A	1.766
25	1.625-1P-.3L-2A	1.891

NOTES

1. For pin/pin and skt/skt symmetrical layouts only. Consult factory for available insert arrangements.
2. Power to a given contact on one end will result in power to the contact directly opposite, regardless of identification marking.

MATERIAL/FINISH:

- Shell assembly—Al alloy/see 38999 Reference Information section Table I
  Contacts—Copper alloy/gold plate
- Insulators—High-grade rigid dielectric/ N.A.
- Seals—Silicone/ N.A

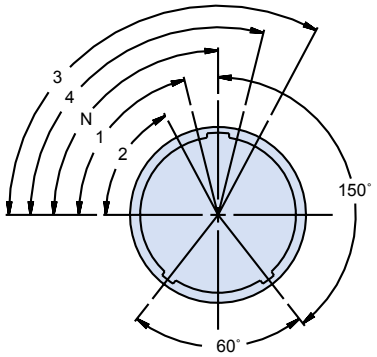
D

Sav-Con® connector savers
Series 22 Geo-Marine®
Reference Information

Table I: Material/Finish	
Sym	**Finish Description**
Z1	Stainless Steel/Passivate Coupling Nut Nickel - Aluminum - Bronze/Degrease

Table II: Contact Arrangements						
Shell Size	**Series 22 Pattern**	**Service Rating**	**Contact Size/Quantity**			
			22	**20**	**16**	**12**
10	10-2	II			2	
	10-04	I		4		
	10-06	I		6		
	10-13	M	13			
12	12-08	II			8	
	12-10	I		10		
	12-22	M	22			
14	14-04	II				4
	14-12	II			14	
	14-19	I		19		
	14-37	M	37			
16	16-06	II				6
	16-19	II			19	
	16-26	I		26		
	16-55	M	55			
18	18-08	I		8		
	18-22	II			22	
	18-32	I		32		
	18-66	M	66			
20	20-11	II				11
	20-30	II			30	
	20-38	I		30	8	
	20-41	I		41		
	20-79	M	79			
22	22-19	II				19
	22-38	II			38	
	22-55	I		55		
	22-85	M	85			
24	24-48	II			48	
	24-61	I		61		
	24-100	M	100			
	24-128	M	128			

Table III: Alternate Keyway Positions



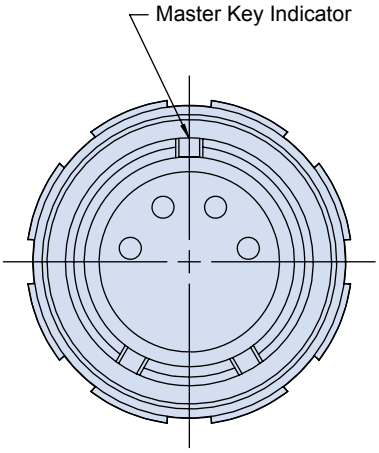
FACE VIEW
RECEPTACLE

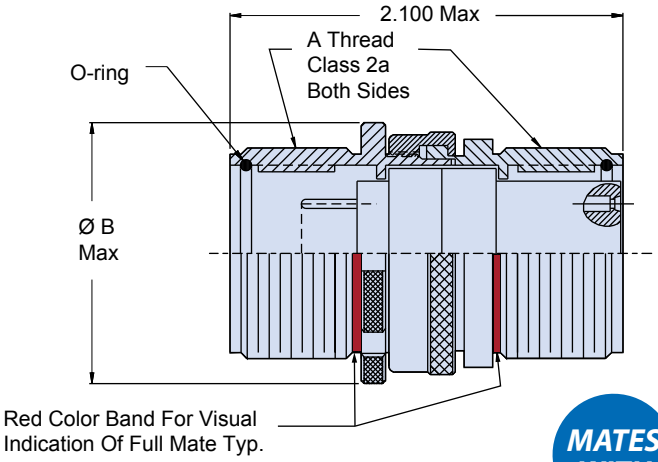
Shell Size Desig.	N°	1°	2°	3°	4°
10	90	76	62	118	104
12	90	70	58	122	110
14	90	69	56	124	111
16	90	72	60	120	108
18	90	72	62	120	108
20	90	72	60	120	108
22	90	75	64	116	105
24	90	75	64	115	105

D

Sav-Con® connector savers
Series 22 Geo-Marine® connectors
227-152 High-Pressure In-Line Gender Changer

How To Order					
Sample Part Number	**227-152**	**Z1**	**16**	**-19**	**N**
Series No.	**227 -152**				
Finish Sym	**Z1;** See Table I				
Shell Size	**10**, **12**, **14**, **16**, **18**, **20**, **22**, **24**				
Insert Arrangement	See Table II				
Alternate Key Position	**N**, **1**, **2**, **3** or **4**; See Table III				





MATES WITH 220-16

Dimensions		
Shell Size	**A Thread**	**B Dia**
10	.750-.1P-.1L	.906
12	.875-.1P-.1L	1.031
14	1.000-.1P-.1L	1.156
16	1.125-.1P-.1L	1.281
18	1.250-.1P-.1L	1.531
20	1.375-.1P-.1L	1.656
22	1.500-.1P-.1L	1.781
24	1.625-.1P-.1L	1.906

NOTES:

1. Assembly identified with manufacturer's name and P/N, space permitting.
2. Glenair 227-152 connector receptacle is designed to mate with Glenair 220-16 series Geo-Marine®connectors. (scoop-proof)

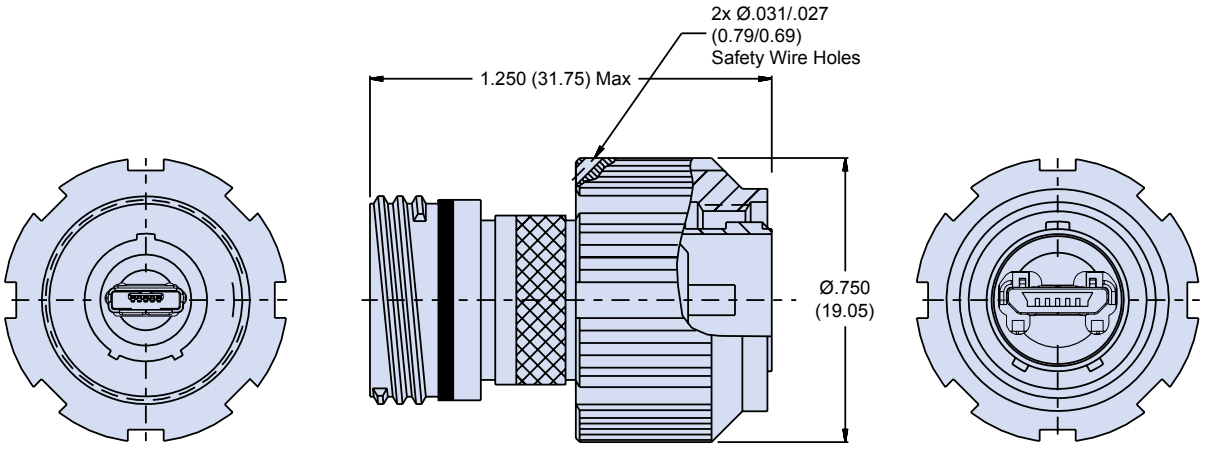
MATERIAL/FINISH:

- Shell, lock nut - CRES/passivate.
- Contacts - copper alloy/gold plate.
- Insulators - high grade rigid dielectric/n.a.
- Interface seal - fluorosilicone/n.a.
- O-rings - nitrile/n.a.

D

Sav-Con® connector savers
SuperSeal™ Mighty Mouse Series 801
801-091 Micro USB Gender Changer

How To Order				
Sample Part Number		**801-091 -MUSB**	**-M**	**A**
Series (See Table I)	**801-091** = Plug/Receptacle Sav-Con® Connector Saver			
Shell Material and Finish	**NF** = Cadmium Olive Drab **M** = Electroless Nickel **MT** = Nickel PTFE **ZNU** = Black Zinc Nickel			
Shell Key Positions	**A**, **B**, **C**, **D**, **E**, **F**			

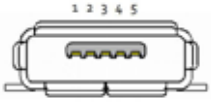


Face View Of Receptacle
As Viewed From Engaging End.

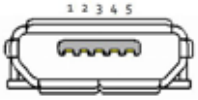
Receptacle
Side

Self-locking
Plug Side

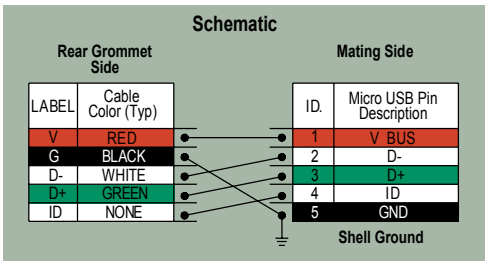
Face View Of Plug
As Viewed From Engaging End.



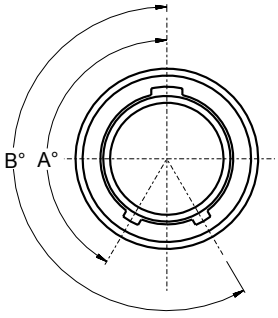
Receptacle Side Equipped with Micro AB USB Receptacle



Plug Side Equipped with Micro B USB Receptacle



Alternate Key Positions		
Code	**A°**	**B°**
A	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°
E	75°	275°
F	95°	210°



D

Sav-Con® connector savers
HiPer-D® D-subminiature
289-057P, 289-058S Gender Changer

HiPer-D® Gender Changers provide a convenient way to change the gender of an interface to allow attachment of a mismatched cable. Two styles are available: male-male and female-female. Machined metal housing protects circuits from EMI problems. Available in standard density and high density contact arrangements. Intermateable with standard M24308-type connectors. Pin mating face has fluorosilicone rubber seal. Choose electroless nickel or gold shell finish for avionics and space applications. Choose cadmium for compatibility with cadmium or zinc plated M24308 connectors, or choose nickel-PTFE for maximum corrosion protection. Other materials and finishes available on request.

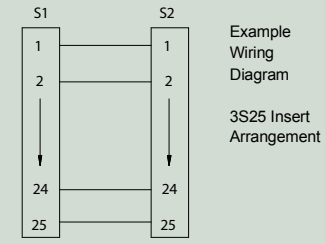
How To Order

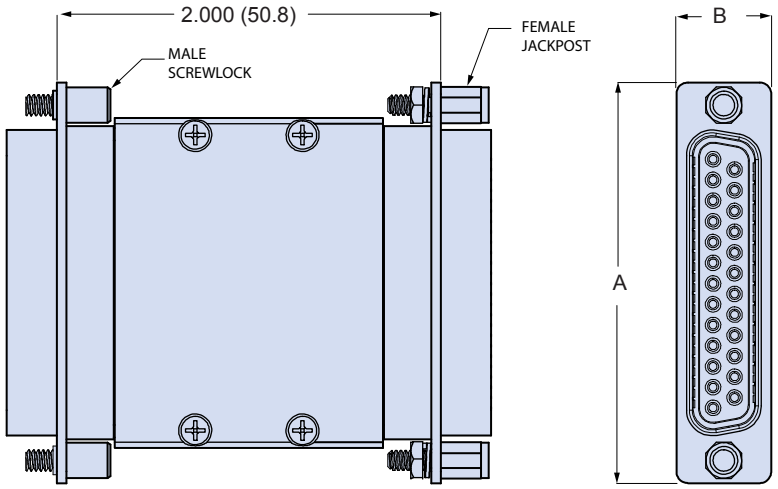
Sample Part Number	289-057P	3S25	ME	N	1
Basic Part Number	**289-057P** Male-Male with Pin Contacts **289-058S** Female-Female with Socket Contacts				
Shell Size-Contact Arrangement	Contact Arrangements are shown in the adjacent table				
Finish	**ME** = Electroless Nickel (RoHS) **MT** = Nickel-PTFE (RoHS) **JF** = Cadmium with Yellow Chromate **Z2** = Gold (RoHS) **Z1** = Passivated Stainless Steel (RoHS)				
Ground Spring	**Omit for 289-058S. Applies to 289-057P Male-Male adapter only.** **G** = Supplied with EMI Ground Spring **N** = No Ground Spring				
Mating Hardware	**1** = Captive #4-40 Male Screwlocks on Both Ends **2** = #4-40 Female Jackposts on Both Ends **3** = Captive #4-40 Male Screwlocks on One End, #4-40 Female Jackposts on Other End				

Shell Size - Contact Arrangements

Shell Size-Contact Arr.	Contact Size and Qty	
	#20	#22
Standard Density		
1S9	9	
2S15	15	
3S25	25	
4S37	37	
5S50	50	
High Density		
1h15		15
2H26		26
3H44		44
4H62		62
5H78		78
6H104		104

Schematic





Dimensions

Shell Size	A		B	
	in ± .015	mm ± 0.38	in ± .015	mm ± 0.38
1	1.213	30.81	.494	12.55
2	1.541	39.14	.494	12.55
3	2.088	53.04	.494	12.55
4	2.729	69.32	.494	12.55
5	2.635	66.93	.605	15.37
6	2.729	69.32	.668	16.97

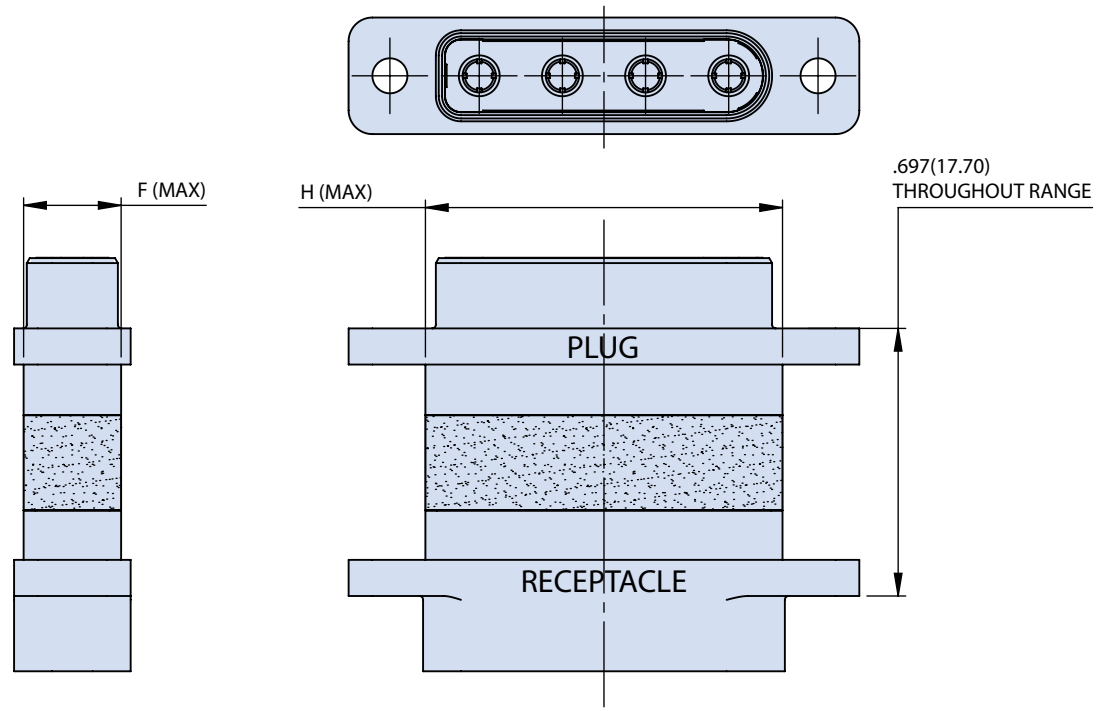
D

Sav-Con® connector savers
Micro-D D-subminiature
MRM17109 Signal and Power Gender Changer

HOW TO ORDER						
Sample Part Number		**MRM17109**	**-E112**	**-PR**	**-2**	**-B**
Generic Part No.	Sav-Con® Micro-D Gender Changer					
Insert Arrangement and Shell Size	See Table I					
Sav-Con Gender	**PR** - Plug to Receptacle					
Shell Plating/Finish	**1** - Cadmium **2** - Eelctroless Nickel **3** - Stainless Steel Passivated **4** - Black Anodize **5** - Gold **6** - Allochrome					
Hardware	**B** - Though Hole **P** - Jackpost **JP1** - Extended Jackpost (plug) **JP2** - Extended jackpost (receptacle) **JPL** - Extended jackpost (supplied loose piece)					

Sav-Con Gender Changers are the solution for mis-matched cables. Available for power only or power and signal combinations in 9 insert arrangements.

Table I: Dimensions



Contact Arrangement	Shell Size	Power Contact Quantity	Micro Contact Quantity	F Max		H Max	
				In .	mm.	In.	mm.
MRM17109-B112PR	2	2	0	0.257	6.53	13.97	0.550
MRM17109-D112PR	4	3	0	0.257	6.53	20.32	0.800
MRM17109-D113PR	4	2	6	0.257	6.53	20.32	0.800
MRM17109-E112PR	5	4	0	0.257	6.53	24.13	0.950
MRM17109-E113PR	5	3	8	0.257	6.53	24.13	0.950
MRM17109-G101PR	7	4	22	0.306	7.77	26.67	1.050
MRM17109-G103PR	7	6	6	0.306	7.77	26.67	1.050
MRM17109-G111PR	7	4	20	0.306	7.77	26.67	1.050
MRM17109-J112PR	9	6	0	0.257	6.53	36.83	1.450

For Specific shell layout dimension data please refer to GDS162

D

WHY CHOOSE Glenair?

Plenty of Raw Materials!

Outstanding Customer Service!

Abundant Machining Capacity!

In-House Assembly!

Huge "Same-Day" Inventory!

Glenair, Inc.
1211 Air Way
Glendale, CA
91201-2497
818-247-6000
sales@glenair.com
www.glenair.com

Out of This World

INTERCONNECT SOLUTIONS

Glenair, Inc.
1211 Air Way • Glendale, California • 91201-2497
Telephone: 818-247-6000 • Fax: 818-500-9912 • sales@glenair.com
www.glenair.com

Glenair Power Products Group
860 N. Main Street Extension
Wallingford, CT
06492
Telephone: 203-741-1115
Facsimile: 203-741-0053
sales@glenair.com

Glenair Microway Systems
7000 North Lawndale Avenue
Lincolnwood, IL
60712
Telephone: 847-679-8833
Facsimile: 847-679-8849

Glenair Electric GmbH
Schaberweg 28
61348 Bad Homburg
Germany
Telephone: 06172 / 68 16 0
Facsimile: 06172 / 68 16 90
germany@glenair.com

Glenair Italia S.p.A.
Via Del Lavoro, 7
40057 Quarto Inferiore –
Granarolo dell'Emilia
Bologna, Italy
Telephone: +39-051-782811
Facsimile: +39-051-782259
info@glenair.it

Glenair Korea
B-1304 Gunpo IT Valley
148 Gosan-Ro, Gunpo-Si
Kyunggi-Do, Korea
435-733
Telephone: +82-31-8068-1090
Facsimile: +82-31-8068-1092
sales@glenair.kr

Glenair UK Ltd
40 Lower Oakham Way
Oakham Business Park
P.O. Box 37, Mansfield
Notts, NG18 5BY England
Telephone: +44-1623-638100
Facsimile: +44-1623-638111
sales@glenair.co.uk

Glenair Nordic AB
Gustav III : S Boulevard 46
SE-169 27 Solna
Sweden
Telephone: +46-8-50550000
sales@glenair.se

Glenair Iberica
C/ La Vega, 16
45612 Velada
Spain
Telephone: +34-925-89-29-88
Facsimile: +34-925-89-29-87
sales@glenair.es

Glenair France SARL
7, Avenue Parmentier
Immeuble Central Parc #2
31200 Toulouse
France
Telephone: +33-5-34-40-97-40
Facsimile: +33-5-61-47-86-10
sales@glenair.fr

Printed in U.S.A.