Glenair®

EMI/EMP Filter Connectors

High-Reliability Military Standard and Commercial Connectors for EMI Suppression

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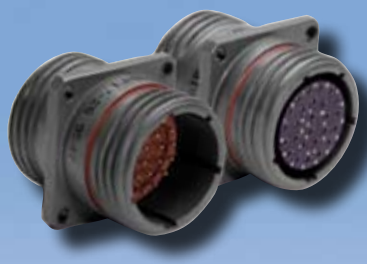
2nd Edition • September 2008

1000 Hour Grey™

The Advanced Formula Ni-PTFE Plating Process for EMC Applications



New Cadmium Free RoHS Compliant Plating Process Breaks 1000 Hour Corrosion Protection Barrier!

The MIL-DTL-38999 Rev. L detail specification establishes several new cadmium-free conductive plating options including high-performance nickel-fluorocarbon polymer. The Glenair advanced formula **1000 Hour Grey™** *plating process (Ni-PTFE) meets all D38999 performance requirements including a shell-to-shell conductivity maximum 2.5 millivolt drop potential.*

1000 Hour Grey™ *delivers outstanding performance in a broad range of land, sea, air and space interconnect applications. The non-reflective, non-magnetic, gun-metal gray surface finish is an ideal choice for tactical military systems with extraordinary corrosion protection and EMC requirements.*

Advanced Durability, Lubricity Plus Outstanding Temperature Resistance!

The mechanical, electrical and environmental performance of **1000 Hour Grey™** *is truly outstanding, far surpassing that of other metal alloy/fluorocarbon polymer plating solutions:*

- 1000+ Hrs. Salt Spray
- Max 2.5 Millivolt Drop Potential
- -65°C to 175°C Temp. Rating
- 336+ Hrs. Sulfur Dioxide Resistance
- Non-Magnetic
- Cadmium Free
- Low Coefficient of Friction
- Hexavalent Chromium Free
- Potassium Formate Resistant
- Low Shell-to-Shell Resistance
- Adheres to Composite Plastic
- 500+ Mating Cycles
- Low Outgassing
- Available Now!

Glenair®

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Open for Business:

Glenair's Class 10,000 Filter Array Clean Room

When Glenair launched its filter connector offering in 2005, we already had plenty of in-house capacity for the manufacture of standard environmental and hermetic connectors. But we were completely dependent on outside suppliers for an essential component part in EMI/EMP filters: the actual multi-layer planar array filter element.

So, starting in 2008, we began to manufacture our own filter arrays. The filter array manufacturing process is not a simple one: First, chemists and technicians in our class 10,000 clean room mix a ceramic slurry and cast it onto Mylar tape. A computer-controlled machine then cuts and stacks thin ceramic layers and screen prints each layer with metallic film for perfect capacitance. The “layer-cakes” are then cured for sizing, machined for contact alignment and positioning, fired for hardness, and plated for conductivity. Finally, specially trained assemblers use micro-soldering techniques to affix contacts within the arrays, often consisting of multiple ceramic capacitor discs.

Our new planar array facility allows us to provide extremely fast deliveries of EMI/EMP filter connectors with outstandingly high levels of quality. Our vertically integrated facility is open for business. Please call the factory for a quote.

Glenair®

A World of Interconnect Solutions

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EMI/EMP Filter Connector Product Selection Guide

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Practical Solutions for Electromagnetic Compatibility

Designing interconnect systems which deliver clean data streams, undistorted by electromagnetic interference or pulses (EMI/EMP) is an enormous challenge. Electromagnetic Compatibility (EMC) requirements have been established to insure that the performance of an individual electronic device is not degraded due to its proximity to high-frequency electromagnetic interference, and also to prevent the device itself from becoming a potential source of EMI. Sensitive electronic devices also need to be protected from voltage spikes generated during transient states or static discharges in the overall system.

Protecting sensitive devices and achieving electromagnetic compatibility in an interconnect environment, such as an aircraft avionics bay, is typically achieved through the application of EMI/EMP screening, grounding and filtering technologies. Interconnect industry techniques for acheiving effective EMC include:

- Reflecting the signals outright,
- Reducing line-of-sight entry points in equipment and cable shields,
- Absorbing the interference in permeable material and dissipating it as heat,
- Conducting the EMI along the skin of the device/cable and taking it to ground,
- Filtering out interference at the point of interconnection, using specialized connectors which provide EMI suppression, and/or,
- Adding transient voltage suppression diodes to clamp voltage spikes.

In most applications, EMI management is not accomplished through the use of a single technique such as filtering, but rather through the combined use of various EMC technologies. While black box device manufacturers may incorporate a filter connector as a universal prophilactic against future, unknown levels of EMI, the final integration of the device into a complex application environment typically requires the use of additional EMC technologies. At the most practical level this includes grounding conductively plated equipment housings with studs and straps, shielding cable conductors with metallic brading, tape or conduit, and eliminating line-of-sight entry points through which electromagnetic waves can penetrate or escape the equipment. This later step is commonly performed by backshell devices which provide a reliable grounding platform for cable shielding and mechanically mask the conductor-to-contact termination from noisy waves of EMI.

Cross-sectional view of a Micro-D connector assembly optimized for EMI noise suppression. Note the use of braided shielding, shield termination band and EMI ground spring. Effective EMI noise suppression may be accomplished solely with the use of filter connectors, but many designers prefer to augment the noise suppression provided by filters with accessory hardware such as banding backshells, conductive gaskets, gounding studs and cable shielding.

The frequency of the interfering signal is a critical concern when selecting EMI shielding devices. Low frequency magnetic waves in the 1 to 30 KHz range, for example, are most effectively shielded by absorbing the signals in permeable material. High frequency signals (30 KHz and above) are most effectively shielded by reducing entry windows and by insuring adequate surface conductivity to ground.

Introduction to Filter Connectors
Application Checklist

Specification Reference:

☐ MIL-DTL-38999 ☐ Ser. 79 Micro-Crimp
☐ MIL-DTL-5015 ☐ Ser. 80 Mighty Mouse
☐ MIL-C-26482 ☐ MIL-C-28840
☐ MIL-DTL-83723 ☐ MIL-DTL-24308
☐ MIL-DTL-83513 ☐ ARINC 600

Series and/or Slash Sheet:

Shell Style:

☐ Jam-Nut Receptacle ☐ Plug
☐ Flange Mount Receptacle
☐ Dual Flange PCB Receptacle
☐ Solder Mount Receptacle
☐ Connector Adapter (Sav-Con®)

Shell Size/Arrangement:

Pin Count:

Contact Gender:

☐ Pin
☐ Socket

Hermetic:

☐ Yes
☐ No

Shell Rotation Position:

Shell Material and Finish:

Termination (PC Tail, Solder Cup, Piggyback Crimp, etc.):

Temperature Tolerance:

Operating: - ___°C to + ___ °C
Storage: - ___°C to + ___ °C

Operating Frequency Range of Effected Equipment:

Filter Capacitance:

	PIN POSITION (Or Group of Pins)	FILTER VALUE* [pF] ± 20%
1		
2		
3		
4		

*1KHz, 25°C

Desired Filter Circuit Type:

☐ C Filter ☐ C-L Filter
☐ L-C Filter ☐ Pi Filter

Labeling and Marking Instructions:

Insertion Loss:

	FREQUENCY [MHz]	ATTENUATION [dB]
GROUP 1		
GROUP 2		
GROUP 3		
GROUP 4		

IR:

_____ Volts

DWV:

_____ Volts

Capacitor Array Code:

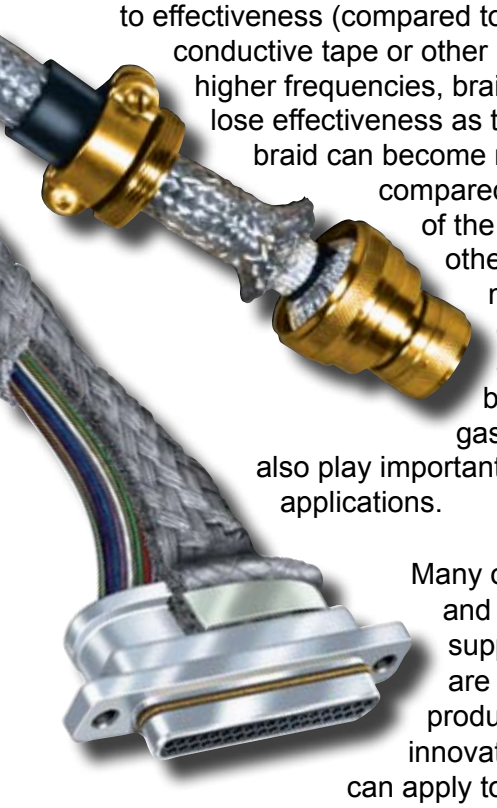
Capacitor Array Code/Capacitance Range		
Class	Pi-Circuit (pF)	C-Circuit (pF)
X	160,000 - 240,000	80,000 - 120,000
Y	80,000 - 120,000	40,000 - 60,000
Z	60,000 - 91,000	30,000 - 45,500
A	38,000 - 56,000	19,000 - 28,000
B	32,000 - 45,000	16,000 - 22,500
C	18,000 - 33,000	9,000 - 16,500
D	8,000 - 12,000	4,000 - 6,000
E	3,300 - 5,000	1,650 - 2,500
F	800 - 1,300	400 - 600
G	400 - 600	200 - 300

Note: For any capacitor array code listed, we can accommodate both C circuit and Pi circuit capacitance values.

A

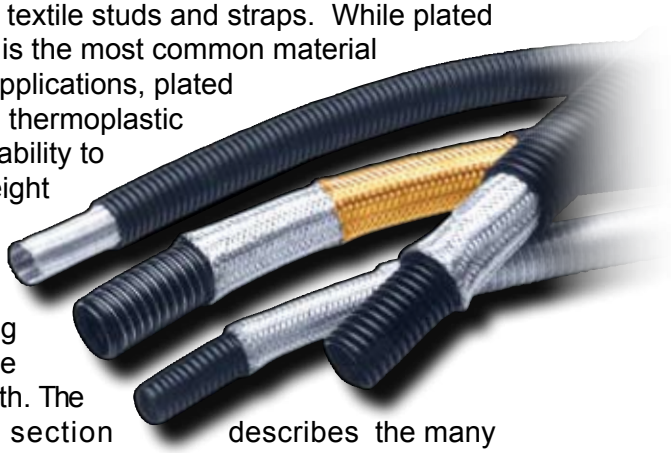
EMC Materials and Technologies

In interconnect cable assemblies, conductive wires and cables act as antennas to pick up and/or radiate noise. Cables can couple electrical or magnetic fields, or even radiated energy from another cable (known as “crosstalk”). The most basic of all material requirements is therefore to apply a conductive shielding around cable conductors to take electrical and magnetic field voltages to ground. Braided shielding provides the cable assembly with strength, durability and flexibility with just a slight sacrifice to effectiveness (compared to a solid conduit, conductive tape or other material). But at higher frequencies, braided shielding can lose effectiveness as the windows in the braid can become relatively larger compared to the wavelength of the EMI. This is why other materials, such as metal-core conduit, conductive junction and equipment boxes, conductive gaskets, and so on also play important roles in EMC applications.



Many of the EMC materials and technologies supplied by Glenair are full-fledged product lines. Others are innovative techniques we can apply to a broad range of interconnect products. External and internal grounding springs are one such example. These gold-plated springs offer lower shell-to-shell resistance and are compatible with standard mating receptacles. Most of the connectors produced by Glenair can be equipped with grounding fingers for improved EMI shielding and grounding.

Most military grade interconnect devices and equipment housings are made of materials that accept conductive plating to provide some EMI protection outright and simultaneously facilitate grounding through the use of attached metallic or metallized textile studs and straps. While plated aluminum is the most common material for EMC applications, plated composite thermoplastic offers the ability to reduce weight and corrosion while still maintaining an effective ground path. The following section describes the many individual Glenair materials and technologies used for effective EMC.



Conductive Braided Shielding

Low frequency waves in the 1 to 30 kHz range can be absorbed into permeable conductive materials, such as shielding placed around individual conductors within a cable assembly or wire harness. This shielding material either captures the EMI taking it to ground or dissipates it as heat. Metallic braids and high-tech plated fabrics also shield cable conductors from line-of-sight penetration or escape, again by taking EMI to ground.

A wide range of cable shield termination technologies are available—the effectiveness of each style, and the complete shielding solution, can be measured using a transfer impedance test to evaluate the cable shield performance against electrostatic discharge and radiated emissions at various frequencies up to the gigahertz range. Shielding effectiveness can be calculated for a range of frequencies by taking the ratio of transfer impedance for an unprotected device or system

compared to transfer impedance of a protected device or system, with the result expressed in decibels. Glenair cable shielding is manufactured in a wide range of designs and configurations. Materials include tin-plated copper, nickel-plated copper and tin-plated iron/copper. AmberStrand® is metallized composite thermoplastic material that matches metal shield performance at a fraction of the weight. Each material has specific performance advantages ranging from strength, to conductivity and corrosion protection.

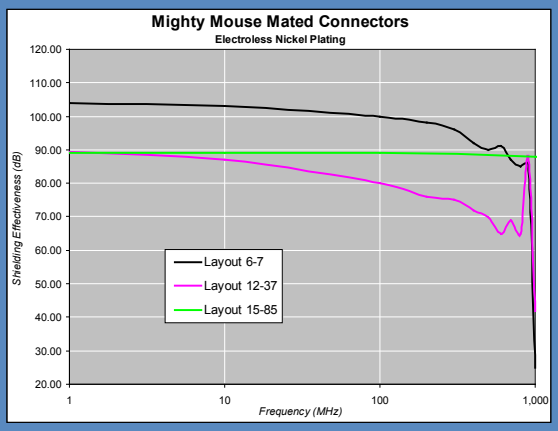
Braided shields provide exceptional structural integrity while maintaining good flexibility and flex life. They also minimize low-frequency interference at audio and RF ranges. The material's ability to contribute to EMI reduction

depends on the signal amplitude and frequency in relation to braid mesh count, wire diameter and material. Generally, the tighter the mesh and the higher the percentage of braid coverage, the more effective the shield is against high-frequency emissions. An alternative is to use more than one braid shield.

Metal Braid is offered in Tubular or Flat configurations in a variety of sizes from 1/32 inch (0.8 mm) to 2-1/2 inches (63.5 mm), and can easily be slipped over convoluted tubing and conduit as well as wire bundles, cables or similar constructions. Glenair's in-house braiding production capacity is truly impressive: More

Series 80 "Mighty Mouse"

Glenair produces a miniaturized connector family called the Series 80 "Mighty Mouse." It is a smaller and lighter equivalent connector to the popular MIL-DTL-38999. A critical aspect of EMC is to ensure the integrity of the ground when connectors are mated. Shell-to-shell conductivity tests measure this integrity in terms of a voltage drop across the mated pair initially, and following various stressors.



Well designed and engineered connectors will meet the requirements of EIA-364-83 for shell-to-shell conductivity in the initial condition, following salt spray, following 500 mating cycles, and following shock and vibration. In the case of the Series 80 "Mighty Mouse'" the mated pair did not exceed the 10 millivolt maximum voltage drop as required under EIA-364-83.

The "Mighty Mouse" is also equipped with an integrated banding platform on the connector shell, facilitating the termination of braided shielding without the use of an accessory backshell.

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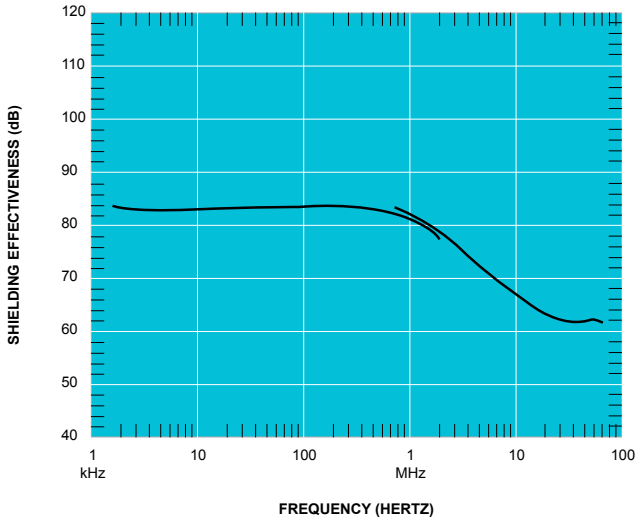
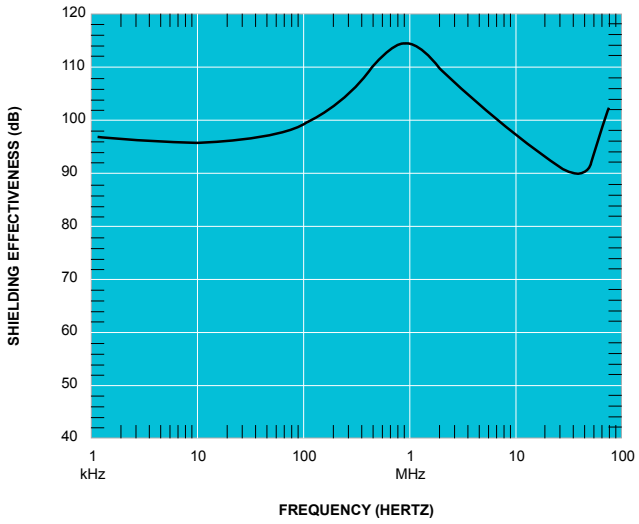
than 50 braiders, ranging from 16 to 96 carriers, provide the capability to produce large quantities of precise metal and non-metallic braid and expandable sleeving in tubular, tapered, and flat configurations.

Shield Effectiveness Series 74 Tubing
with External Tin/Copper Braid – 1 Inch Diameter



Shield Effectiveness Series 74 Tubing
with Two External Tin/Copper Braid – 1 Inch Diameter



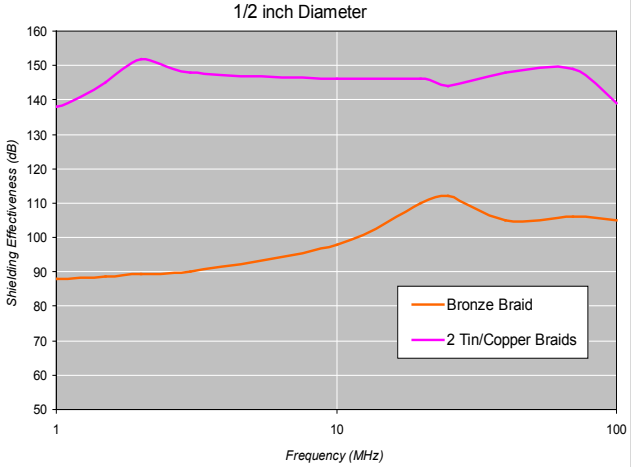
An alternative to braided shielding, foil shields are made from aluminum laminated to a polyester or polypropylene film. Foil shields provide 100 percent cable coverage, improving protection against radiated emission and ingress at audio and radio frequencies. Because of their small size, foil shields are commonly used to shield individual pairs in multi-conductor cable to reduce crosstalk. Foil shields may also be bonded to a coaxial cable insulation or cable jacket with a layer of adhesive, allowing for faster, easier and more reliable termination.

Metal-Core Conduit Solutions for Advanced EMC Applications

Glenair Series 75 Metal-Core Conduit is the “Cadillac” of EMI shielding. Helically-wound metal conduit provides extremely high levels of EMI protection across all radiation fields and frequencies. Metal-Core Conduit is the material of choice for TEMPEST secure communications and other applications involving sensitive electronic equipment and intense levels of EMI.

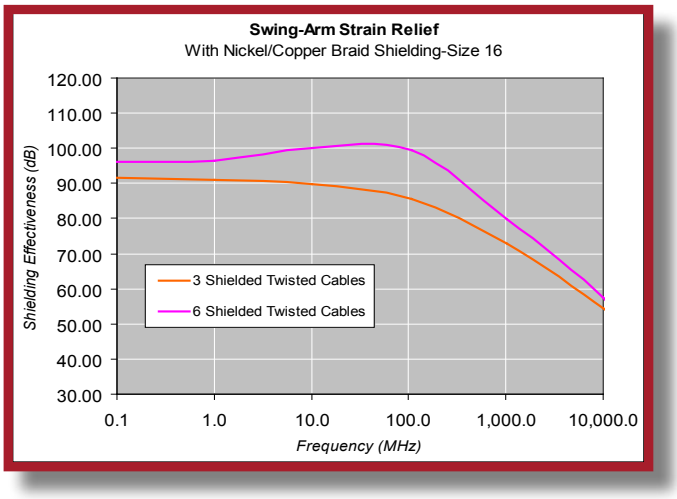
Metal-core materials include brass, nickel/iron and stainless steel, generally specified with one or more overbraids of bronze or plated copper for additional pull-strength and strain-relief as well as with rubber jacketing. The choice to use Metal-Core Conduit depends on the sensitivity of the equipment under consideration and other mechanical, thermal and environmental requirements.

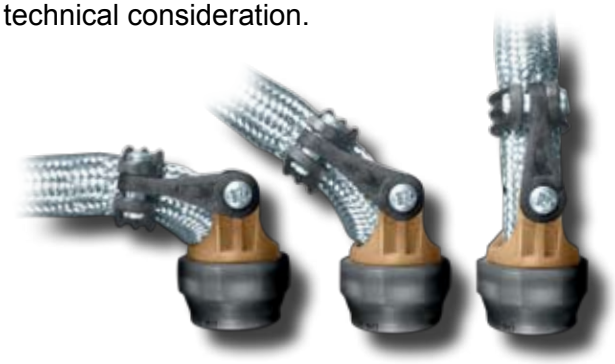
Series 75 Metal Core Brass Conduit with Neoprene Jacket
1/2 inch Diameter



Swing-Arm Shield Sock Backshells

The selection of an appropriate shield termination backshell depends on many factors, including ease of assembly, cost, repairability, shield type and construction, cable diameter and type, cable jacket thickness, weight and corrosion resistance. Often the choice boils down simply to customer preference, although certainly cable construction, i.e., type of shielding and other mechanical factors is the most significant technical consideration.

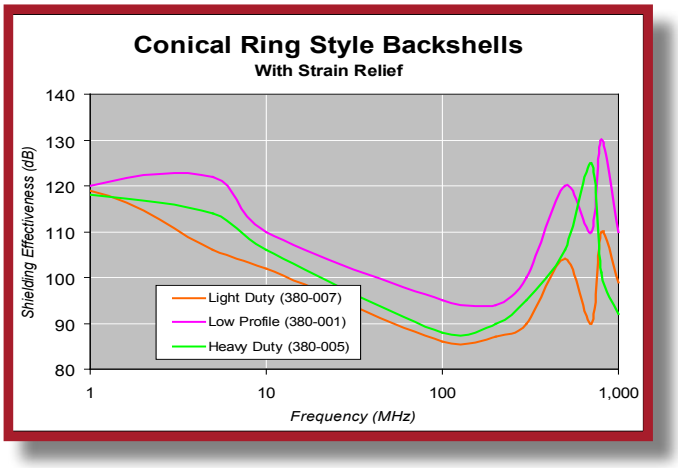




As there is no single shield termination technology or methodology that will meet every customer requirement, Glenair supports every popular shield termination method with the full range of sizes and materials. Currently Glenair is able to produce an innovative backshell product, called the Swing-Arm that resolves a significant number of design problems—including EMC. The composite thermoplastic Swing-Arm features an integrated EMI shield sock and configurable cable clamp—available with nickel/copper or metallized composite thermoplastic shielding. The articulating arm can be configured to straight, 45° or 90° positions, reducing stock keeping requirements. The Swing-Arm also offers extremely fast, simple and trouble-free shield terminations.

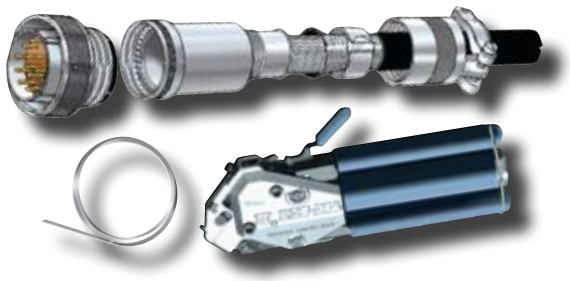
Conical Ring Style Backshells

Glenair EMI/RFI conical ring backshells provide reliable individual and overall shield termination by securing the shield under pressure between a conically shaped backshell and ground ring.



Glenair Band-It® Termination System

The unique low profile and smooth inside diameter of the Band-It® steel clamping band virtually eliminates EMI leakage paths, providing reliable and repairable shield terminations. Cylindrical banding backshells are available for all Military Standard type connectors.



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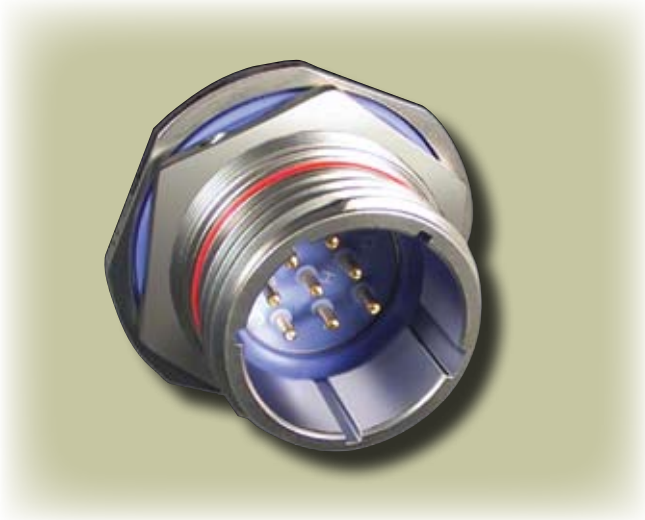
EMI/EMP Filter Connector Overview

Filtering or suppression of electromagnetic noise within the connector package is reliably accomplished through the integration of capacitors and diodes into the connector to segregate interfering high-frequency or high voltage noise from the desired lower frequency signals. The capacitors strip off the interfering noise from the signal as it passes through the filter device. While various types of capacitor filters are available, perhaps the most widely applied is the Planar Array type. Planar Arrays are extremely effective at filtering high-frequency interference. Planar Array designs utilize ceramic capacitor arrays and ferrite inductors which externally surround each contact, and may be supplied in a single monolithic block to fit into any connector size or shape. Planar arrays may be fabricated with different capacitive values on individual pins for additional flexibility in achieving the desired level of EMC. Diodes are used to clamp the voltage below a certain value, thereby protecting the electronic circuity. They are typically integrated into the connector using a small printed circuit board.



Ferrite elements and capacitors can be integrated into any connector package envelope.

Using filter technology has certain advantages to the electrical system engineer, most especially improved signal integrity as well as size and weight reduction. In addition, filters can be incorporated into an interconnect system late in the research and development process; for example after an unforeseen emission problem has been detected. In every filter application the signal levels and frequency bands must be well understood in order to select the appropriate mode or type of filter technology.

For example, electronic equipment used by avionic systems typically spans the electromagnetic spectrum from a few kilohertz to several gigahertz. At the low end, Omega Navigation, which is used to fix aircraft position within a network of ground based transmitters, operates in the frequency range of 10 to 14 kHz. VHF Omnidirectional Range Finders (VOR) are radio beacons used in point-to-point navigation. They operate from 108 to 118 MHz. Glideslope Systems used during landings operate in the 328 to 335 MHz range. Distance-Measuring Equipment (DME), which gauges the space between the aircraft and ground-based transponders operate at just over 1 GHz.

Clearly, potential EMI in the application environment described above covers a broad range of frequencies. Filter modes and types are consequently specified according to the EMI frequency ranges which are the source of the actual signal degradation and the operating frequency of the affected device. Certain electrical circuit criteria are also germain to filter selection, including:

- Capacitance Value
- Working Voltage
- Surge Voltage
- Dielectric Withstand Voltage
- Insulation Resistance
- Transient Protection

Introduction to Filter Connectors
EMI/EMP Filter Connector Overview

Filter connectors appropriate for use in applications such as those referenced above are broadly identified as 'low-pass' filters (i.e. they let low frequency signals pass through and attenuate higher frequencies). The attenuation curve can be shaped using different filter types (different configurations of capacitors and inductors). These types include: Pi Filter, L-C or C-L Filter, and C Filter. These filter connector types are characterized by their relative abilities to filter noise according to capacitance, voltage values and load impedances. The simplest design is the "C", which consists of a single capacitor inserted between the signal line and ground.

While most EMI filter connectors can be used in a working temperature environment from -55 to 125° C, selected designs are optimized for higher operating temperatures. Hermetic Filter connectors provide the ultimate protection– ensuring system hermeticity while the added filter/diode elements safeguard electrical signals passing through the connector.

Prior to shipping a filtered connector, Glenair offers extensive testing, qualification and burn-in options. Tests range from a simple capacitance (C), insulation resistance (IR), and dielectric withstanding voltage (DWV), to more elaborate options such as RF insertion loss, dissipation factor, Zener/TVS diode test, ground resistance, voltage conditioning and thermal shock.

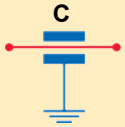
The Glenair factory, provided with the system attenuation and frequency values, relevant electrical specifications, and connector configuration details can design an effective filter device for every application (to get started, use the application checklist on the last page of this introduction). Glenair is able to supply filter technology in every cylindrical connector standard we produce including our Series 80 "Mighty Mouse" as well as MIL-C-38999, Mil-C-5015, MIL-DTL-83513, Mil-C-24308, and so on. Custom circular and rectangular styles are also available. Hybrid electrical/optical filter connectors are a specialty.

COMMON FILTER CONNECTOR TYPES

Glenair supplies filter connectors in the following electrical configurations: C, L-C, C-L, and Pi. The following general values may be used in type selection: Single element filter connectors sporting either a single capacitor or inductor yield an insertion loss characteristic of 20dB per decade, dual element filters (capacitor plus an inductor) 40dB per decade, and triple element filters 60dB per decade. Selection is based primarily on source and load impedances but may also be influenced by the level of attenuation required at various frequencies. Please consult the factory for assistance in evaluating insertion loss values. All insertion loss values quoted for a 50 Ohm impedance.

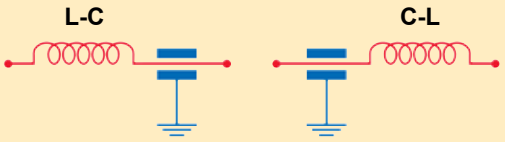
C Circuit Filter

Single capacitor with low self inductance. This configuration is generally used to attenuate high frequency signals. The simple design allows high-frequency EMI to discharge to ground via the surrounding electromagnetic field.



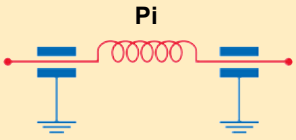
L-C or C-L Circuit Filter

Single capacitor combined with an inductive element. It is commonly used in a circuit with a both a low impedance source and a high impedance load or a low impedance load and a high impedance source. The inductive element should face the low impedance.



Pi Circuit Filter

Dual capacitors with a single inductive element positioned between them. The Pi filter provides exceptional high-frequency performance due to its sharper rolloff and is typically used when both source and load impedances are high.



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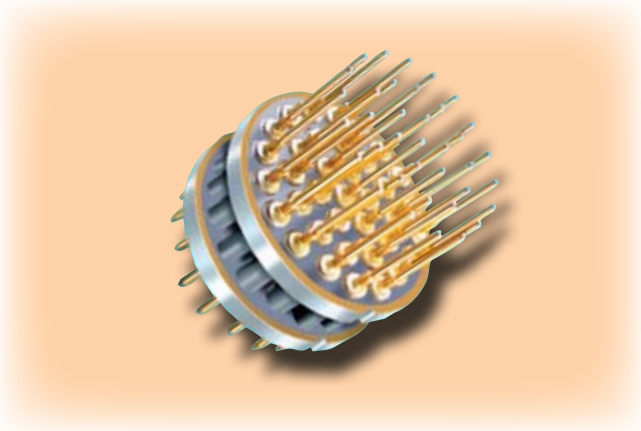
Multilayer Ceramic Planar Capacitor Arrays

Planar, multi-layer ceramic capacitive filters offer reduced size and improved performance compared to discrete discoidal or tubular capacitors. Planar array filter devices have the advantage, especially when compared to capacitive filters integrated at the circuit board level, of being bidirectionally effective at attenuating unwanted noise travelling into and out of equipment enclosures.

As mentioned above, the planar array can be designed with different capacitive values on individual pins, and pin groupings, and can also be selectively equipped with surge protection diodes. The ability to accommodate such Transient Voltage Suppressions (TVS) diodes to protect against voltage spikes from transient sources such as EMP, lightning or Electrostatic Discharge (ESD) is an additional strength of the planar array design. The planar array package can also easily accommodate ferrite elements to add inductance to the filter device. For these reasons and more, the planar array is the most common filter type specified in military aerospace and other high-performance applications.



Multipin planar array filter device, assembled with its ferrite elements and connector contacts, ready for insertion into the connector shell. The flexible design allows for different capacitive values on individual pins as well as the integration of hybrid contacts such as optical termini.

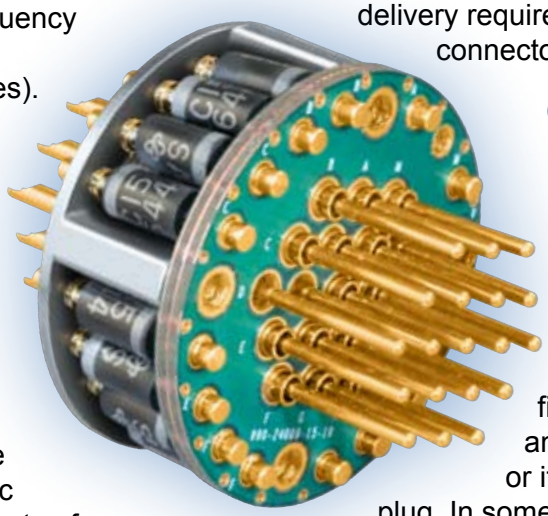
The metal electrodes are plated on alternate ceramic layers with a 'hot' or ground electrode to match the contact pattern of the chosen connecter. This results in a discrete capacitance value per hole—ultimately determining the EMI attenuation properties of the assembled filter device. After the layer-cake of dielectric materials and conductive elements is assembled, it is fired at high temperature to create a unified, monolithic structure.

As the figure below illustrates, the planar array is fabricated such that the capacitor positions align exactly to the pin layout positions of the connector. When combined with inductive ferrite elements, TVS diodes or other special circuitry, the final assembly is ready for insertion into the connector shell. The incorporation of filter elements into a standard cylindrical or rectangular connector will necessarily increase the overall length of the package. The extra real estate is usually added to the inside-the-box (non-mating) side of the connector receptacle. Another approach is to attach a connector adapter, or go-between, outfitted with the filter device, to the connector plug. This approach has the advantage of not requiring any dimensional changes in box design or receptacle connector package.

Typically, custom-configured planar arrays, with unique capacitive elements and values, are required to effectively address complex EMI problems such as might be encountered in an avionics bay or in the body of a missile. For this reason, planar array fabrication is accomplished using the most advanced CAD software and CNC machine tools. As critical EMI problems are often discovered late in the development process—perhaps only after equipment has been installed for use—it is critical that turnaround times in design and fabrication of custom designs are kept to a minimum. Glenair is committed to meeting the most aggressive delivery requirements for planar array type filter connectors.

EMI Filter and Transient Voltage Suppression Packaging

The packaging of EMI and TVS elements in standard connectors is an important element in effective EMC design. EMI/EMP connectors typically come in Mil-Spec packaging for easy intermating with Mil-Spec circular, D-sub, Micro-D and other standard formats. Such connectors are broadly identified as 'low-pass' filters (i.e., they let low frequency signals pass through and attenuate higher frequencies). The attenuation curve can be shaped using different filter types (different configurations of capacitors and inductors).



While the exterior of these very special connectors look normal enough, inside is another story—a planar array made of multiple layers of ceramic dielectric, separated by sheets of ceramic tape and screen printed with a pattern of metal electrodes to create a capacitor used to suppress or attenuate unwanted noise. Capacitance at each electrode protects against EMI, while carefully placed transient voltage suppression diodes guard against damage from lightning strike and other voltage surges.

Planar, multi-layer ceramic capacitive filters offer reduced size and improved performance compared to discrete discoidal chips or tubular capacitors. Planar array filter devices have the advantage, especially when compared to capacitive filters integrated at the circuit board level, of being bidirectionally effective at attenuating unwanted noise travelling into and out of equipment enclosures.

As critical EMI problems are often discovered late in the development process—perhaps only after equipment has been installed for use—it is critical that turnaround times in design and fabrication of both standard and non-standard designs are kept to a minimum. Glenair is committed to meeting the most aggressive delivery requirements for planar array type filter connectors.

Glenair's Growing Filter Connector Availability

Applications requiring filtered connectors generally call for specific plating, mounting style, keying, shell size, contact layout, contact gender, termination, and frequency filtration. Typically, the filtered connector is either replacing an existing non-filtered receptacle, or it must mate with an existing cable plug. In some cases the filtering element is built into a connector go-between or saver. Whatever the packaging requirement, Glenair is committed to a "no gaps" product availability model whereby we can quickly build and ship any possible filter connector configuration for industry standard connector families such as MIL-DTL-38999, MIL-DTL-83513 and our own Series 80 "Mighty Mouse."

Shell Size and Contact Count	Capacitance Codes
9	A, B, D, F
15	A, D
21	A, C, D
25	B, D, F
31	D
37	B, D, F

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Introduction to Filter Connectors
EMI Filters and Transient Voltage Suppression Packaging

We currently stock some finished filtered connector parts in our Same Day inventory, and we will continue to add to this stock. More importantly, we have placed into inventory a wide range of the longest lead time component—ceramic planar filter arrays—in the most popular capacitance values. This filter array stocking program enables Glenair to provide the industry's fastest delivery of finished filtered connectors. In addition, we now have built the in-house capability to manufacture our own ceramic planar capacitor arrays. This vertical integration will allow us to continue to add to component stock and reduce lead times even further.

Listed below are the current filtered connector families available for the fastest delivery in the industry. For any capacitor array code listed, we can accommodate both C-Section and Pi-Section capacitance values.

Shell Size Layout	Contact Count and Size	Capacitor Array Codes
11-35	13 #22D	B
13-35	22 #22D	D, E, F
15-35	37 #22D	E, X
17-8	8 #16	A
17-35	55 #22D	D, E, F
21-35	79 #22D	G
23-21	21 #16	X
23-35	100 #22D	G
25-29	29 #16	D
25-35	128 #22	D
25-43	20 #16, 23#20	C

MIL-DTL-38999 series I, II, III, and IV connectors in any plug or receptacle style, along with any material, plating, or filtration in the size and contact layouts with the capacitor codes listed below. These listed filter arrays make more than 142,000 D38999 finished parts. And more D38999 filter array layouts are being added to stock every day!

Shell Size	Contact Count and Size	Capacitance Codes
5	3 #23	A
6	4 #23	A, D
6	7 #23	A, D
7	10 #23	A, D
8	13 #23	D
9	19 #23	A
10	26 #23	A, D
13	37 #23	A
16	55 #23	A
17	85 #23	A

"Mighty Mouse" Series 801, 804, and 805 in plug or any receptacle style, material, plating, or filtration are available in the size and contact layouts with the capacitor codes listed above. These listed filter arrays can make more than 29,000 "Mighty Mouse" finished parts and more "Mighty Mouse" filter array layouts are being added to stock every day!

Micro-D Connectors in Solder Cup, Pre-Wired Pigtails, Vertical Printed Circuit Boards, Right Angle Printed Circuit Boards and In-Line Adapters in any material, plating, or filtration are available in the size and contact counts with the capacitor codes listed below. These listed filter arrays can make almost 35,000 Micro-D finished parts (along with an essentially infinite number of pigtail Micro-D part numbers pre-wired to any length). Again, more Micro-D filter array layouts are being added to stock every day!

In addition to standard catalog products, Glenair filter connector designs may be customized for use in a wide range of application environments including avionic systems, down-hole drilling and logging devices, naval and marine platforms, network-centric ground warfare systems, and missile and satellite/space applications. Please call the factory or visit our website for more information.

EMP and TVS Defined

Electromagnetic Pulse (EMP) refers to the intense radio frequency pulses produced by nuclear explosions at high altitudes. Other names for this include Nuclear EMP (NEMP) and High-Altitude EMP (HEMP). Similarly, System Generated EMP (SGEMP) refers to electrical noise resultant from large amounts of composite skin used in satellites, aircraft and helicopters that discharge over time. Like other forms of electromagnetic interference, EMP can have a destructive effect on sensitive electronic devices, particularly those used in mission-critical military applications. This occurs if and when the EMP couples to an antenna or an unshielded cable and passes unmolested into an electronic device. EMP hardened equipment is designed to protect vital communications at a time when unhardened devices are likely to fail. Thus it is a standard requirement for many military applications to proactively protect certain devices from EMP via the integration of Transient Voltage Suppression technologies into the connectors that service the device.

Transient Voltage Suppression (TVS) technologies are designed to shunt voltage transients directly to ground before such surges can damage sensitive electronic equipment. Individual TVS diodes as well as diode modules may be incorporated directly into the filter connector package to provide optimal protection for either individual contacts or groups of contacts without significant increases in connector size or weight. Individual circuit protection diodes and diode modules are available for all connector types and are routinely stocked by Glenair to reduce lead-times. Field maintenance and repair of damaged diodes is also possible as both individual diodes and diode modules are easily removed from the connector package. RTCA DO-160 and other electrical performance standards now define acceptable benchmarks for withstanding electromagnetic pulse, lightning strike, or other induced voltage surges. Glenair designs all TVS equipped filter connectors to conform to the RTCA DO-160 standard.

Hermetic Packaging

Hermetic connectors are specified for applications as divergent as submarines and orbiting satellites. They are deployed to resist moisture ingress in underground applications and to withstand pressure differentials in vacuum chambers, laboratory equipment and commercial and military aircraft. Hermetic connectors, such as the MIL-DTL-38999 Series I, II, III and IV supplied by Glenair, are principally designed for use in military aerospace—in fact, the requirement for connector hermeticity was originally driven by military electronic applications. But the products are equally at home in commercial applications such as oil-patch logging equipment or medical devices.

Hermetic connectors are constructed from a core component-set that includes the connector shell, a vitreous glass insert and the selected contacts. Shells may be machined from stainless steel or Kovar®, an iron-nickel-cobalt alloy with a co-efficient of expansion closely balanced to the glass inserts. Contacts used in hermetic connectors must be fabricated from high-grade iron/nickel materials that can withstand high-heat, and bond effectively to the vitreous glass seal.

As with other connector families, hermetic customers may specify the connector coupling style (threaded, bayonet, etc.), pin or socket gender and layout, contact termination type (solder cup or PCB termination), conductive or non-conductive finish, polarization and so on. Glenair's complete in-house hermetic capability affords us the ability to produce a wide-range of special purpose hermetic connectors designed to meet individual and unique customer specifications—such as EMI/EMP filtering.

Hermetic class EMI/EMP filter connectors are available throughout our complete range of filtered connector products in both Pi and C from 400 pF to 56000 pF. Connector platings and materials are offered in class H2 (stainless steel, electroless nickel).

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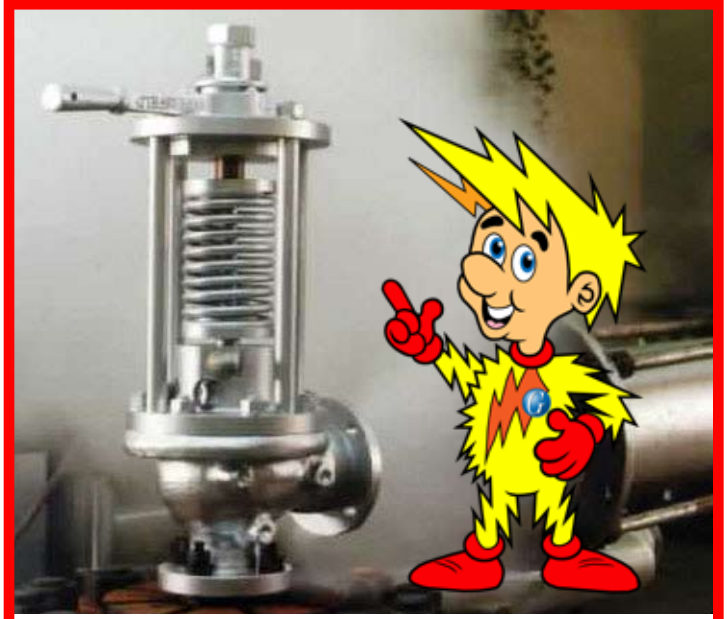
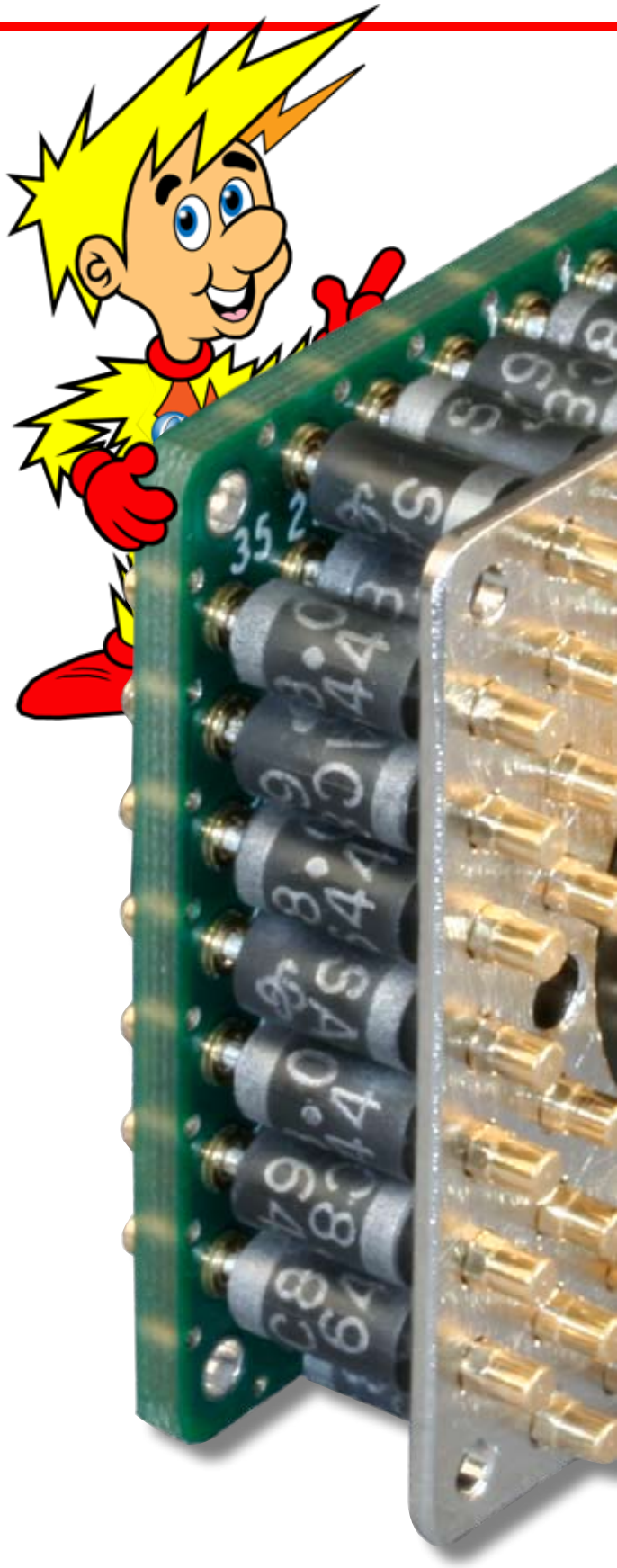
Transient Voltage Suppression

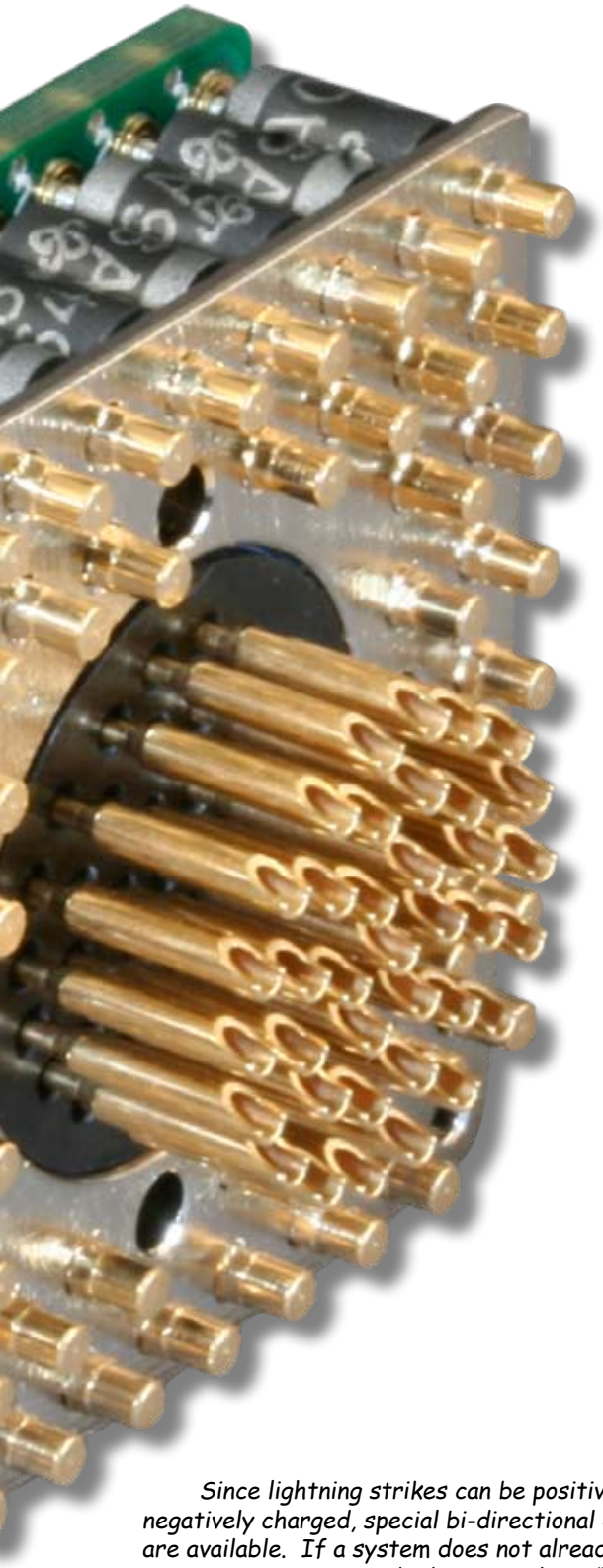
Designers must protect systems from transient over-voltages as a result of nearby lightning strikes. Placing transient suppression diodes within the system—preferably inside a connector instead of some ad hoc location—is one of the most effective ways to protect electronic systems from lightning strikes and other sources of electromagnetic pulse.



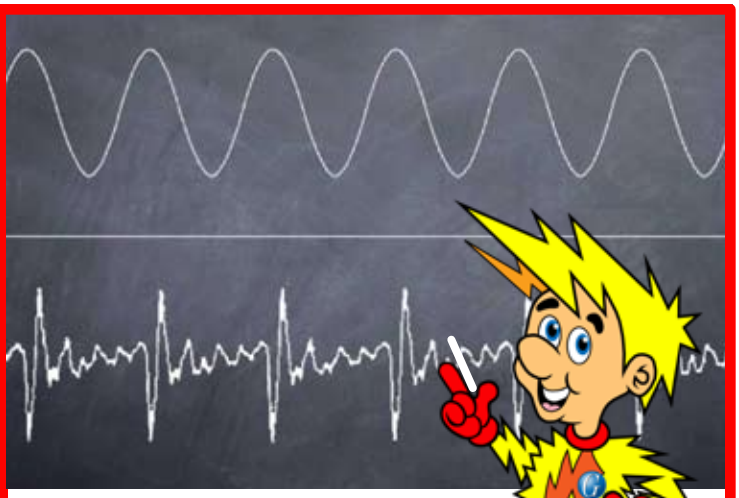
Diodes work something like a pressure valve on a home water heater—if the pressure within the chamber exceeds a certain value, the valve opens, allowing steam and liquid to escape. Similarly, diodes in electronic systems protect components within the circuit by shorting to ground transient spikes that exceed the diode's clamp voltage.



Workshop with Serge Gigawatt



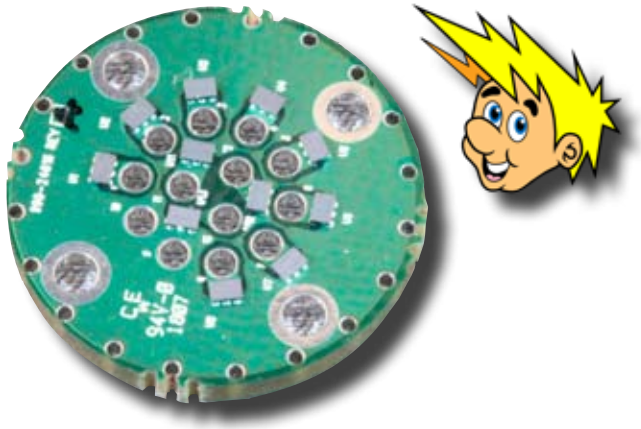
Since lightning strikes can be positively or negatively charged, special bi-directional diodes are available. If a system does not already have transient suppression diodes somewhere "in the box," Glenair can include diodes on EMI filtered or non-filtered connectors.



When specifying transient voltage suppression for a given lightning strike waveform (or "shape") and level (or magnitude), diodes must be compatible with EMI filter dielectric withstanding voltage (DWV) rating.

Diode power is rated in watts for a given pulse shape and pulse duration. Typically the reference values are given for a 10/1000μs pulse. This means that the diode can absorb the peak power rated for a pulse with 10μs rise time and 1000μs fall time. If the system is subjected to a different pulse shape or duration the value must be adjusted accordingly. The table on the following page does just that for RTCA D0/60 lightning strike.

For high speed applications, diode capacitance and trace inductance are critical. Glenair engineers will recommend a suitable design for each application. This may involve using extremely compact surface mount diodes within the pin field of the connector, as shown below.



Introduction to Filter Connectors
Transient Voltage Suppression
Diode Selection Guide

Diode Power Selection for Lightning Strike Waveform Threats

DO 160 Waveform	Level	Open Circuit Voltage/ Short Circuit Current V/A	Diode Peak Voltage (Vwm)	Diode Clamp Voltage (Vc)	Recommended Diode Power (Watts)
1 MHz Damped Ringing Sine 3	1	100/4	5 to 60	9.2 to 96.8	600
	2	250/10	5 to 150	9.2 to 243	600
	3	600/24	5 to 170	9.2 to 275	600
	4	1500/60	5 to 54	9.2 to 87.1	600
			58 to 150	93.6 to 243	1500
			160 to 170	259 to 275	3000
	5	3200/128	5 to 22	9.2 to 35.5	600
			24 to 60	38.9 to 96.8	1500
			64 to 130	103 to 209	3000
			150 to 170	243 to 275	5000
Double Exponential 6.4 x 70 µsec 4	1	50/10	5 to 30	9.2 to 48.4	600
	2	125/25	5 to 75	9.2 to 121	600
	3	300/60	5 to 17	9.2 to 27.6	600
			18 to 26	29.2 to 42.1	3000
			28 to 110	45.4 to 177	5000
			120 to 170	193 to 275	15000
	4	750/150	5 to 8.5	9.2 to 14.4	3000
			9 to 60	15.4 to 96.8	5000
			64 to 170	103 to 275	15000
	5	1600/320	5 to 24	9.2 to 38.9	5000
			26 to 78	42.1 to 126	15000
			90	147	30000
Double Exponential 40 x 120 µsec 5A	1	50/50	5 to 30	9.2 to 48.4	1500
	2	125/125	5 to 75	9.2 to 121	3000
	3	300/300	5 to 15	9.2 to 24.4	3000
			17 to 170	26.7 to 275	15000
			180	291	30000
	4	750/750	17 to 22	26.7 to 35.5	15000
			30 to 48	55.2 to 77.4	30000
	5	1600/1600	None		

Introduction to Filter Connectors
Transient Voltage Suppression Diode Selection Guide

Tables for the selection of diodes and recommended DWV for a specified waveform voltage threat.

1. Determine the specification threat waveform and level.
2. Determine the maximum clamping voltage that the system can tolerate (this may be a different value for each pin of the connector).
3. Move down the table to the waveform and Voc/Isc (Open Circuit Voltage/ Short Circuit Current) that is covered in the specification.
4. Move across the table left to right and select the recommended diode power level.
5. If the application is a high frequency data line, a low capacitance diode will be needed. There is no difference in the power rating.
6. High speed data lines, Ethernet or USB, cannot tolerate much capacitance at all. These will need a special diode and no filter can be used.
7. If a filter is to be used in the application, consult EMI Filter Rating table (below) to determine the minimum DWV voltage needed to protect the selected filter capacitance.
8. The filter DWV rating applies with or without a diode.

EMI Filter Rating in Dielectric Withstanding Voltage (DWV)
For Compatibility with Transient Suppressing Diodes

DO 160 Waveform	Level	Waveform (Voc)	▼ Recommended Dielectric Withstanding Voltage ▼ Capacitance pF Minimum						
			19000	**16000**	**9000**	**4000**	**1650**	**400**	**200**
1 MHz Damped Ringing Sine 3	1	100	500	500	500	500	500	500	500
	2	250	500	500	500	500	500	500	500
	3	600	500	500	500	670	720	720	720
	4	1500	740	840	1210	1660	1800	1800	1800
	5	3200	1580	1790	2580	3530	3840	3840	3840
Double Exponential 6.4 x70 µsec 4	1	50	500	500	500	500	500	500	500
	2	125	500	500	500	500	500	500	500
	3	300	500	500	500	500	500	500	500
	4	750	820	850	900	900	900	900	900
	5	1600	1920	1920	1920	1920	1920	1920	1920
Double Exponential 40 x 120 µsec 5A	1	50	500	500	500	500	500	500	500
	2	125	500	500	500	500	500	500	500
	3	300	500	500	500	500	500	500	500
	4	750	900	900	900	900	900	900	900
	5	1600	1920	1920	1920	1920	1920	1920	1920

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Introduction to Filter Connectors
Insertion Loss and Capacitance Values

C

INSERTION LOSS

Insertion Loss, dB Minimum, 25°C

Frequency	X	Y	Z	A	B	C	D	E	F	G	J
1 MHz	22	16	13	6	5	3	—	—	—	—	—
10 MHz	41	36	33	24	23	16	8	4	—	—	—
100 MHz	56	53	52	41	39	35	28	21	10	5	1
500-1000 MHz	60	57	57	50	49	46	41	34	23	17	8

CAPACITANCE

Filter Class	Capacitance	Min f_c (MHz)
X	80000 - 120000 [pF]	*
Y	40000 - 60000 [pF]	*
Z	30000 - 45000 [pF]	*
A	19000 - 28000 [pF]	*
B	16000 - 22500 [pF]	*
C	9000 - 16500 [pF]	*
D	4000 - 6000 [pF]	*
E	1650 - 2500 [pF]	*
F	400 - 650 [pF]	*
G	200 - 300 [pF]	*
J	35 - 60 [pF]	*

*Consult Factory for Minimum Cutoff Frequency

Pi

INSERTION LOSS

Insertion Loss, dB Minimum, 25°C

Frequency	X	Y	Z	A	B	C	D	E	F	G	J
1 MHz	23	19	17	10	8	5	1	—	—	—	—
10 MHz	70	55	52	40	35	25	14	8	2	0.8	—
100 MHz	75+	75+	75+	62	60	57	50	40	15	13	4
500-1000 MHz	75+	75+	75+	66	62	60	58	52	32	22	15

CAPACITANCE

Filter Class	Capacitance	Min f_c (MHz)
X	160000 – 240000 [pF]	*
Y	80000 – 120000 [pF]	*
Z	60000 – 90000 [pF]	*
A	38000 – 56000 [pF]	*
B	32000 – 45000 [pF]	*
C	18000 – 33000 [pF]	*
D	8000 – 12000 [pF]	*
E	3300 – 5000 [pF]	*
F	800 – 1300 [pF]	*
G	400 - 600 [pF]	*
J	70-120 [pF]	*

*Consult Factory for Minimum Cutoff Frequency

APPLICATION NOTES

1. Standard voltage rating is 500 VDC DWV.
2. Insertion loss values quoted are for 50Ω impedance and no load condition.
3. Classes X, Y and Z are 250 VDC DWV. Consult factory for additional information.
4. Some shell configurations may require extra length for classes X, Y and Z.
5. Other configurations available. Consult factory.

Insertion Loss Evaluation

Insertion loss is an important specification to consider in the selection of filter connectors. Insertion loss is a measure of the degradation experienced by a signal when a device, such as a connector, is inserted into the transmission path.

When a filter element performs its job of stripping signal noise from a transmission line, it may attenuate a portion of the desired signal as well. Measured in decibels (dB), insertion loss should be minimized in sensitive electronic systems which may operate at extremely low current levels. Typically, some amount of insertion loss is considered acceptable to accomplish the necessary signal selectivity, since the signal can always be re-amplified post-filtering. However, in many applications, too large a loss may ultimately result in the unacceptable degradation of system performance.

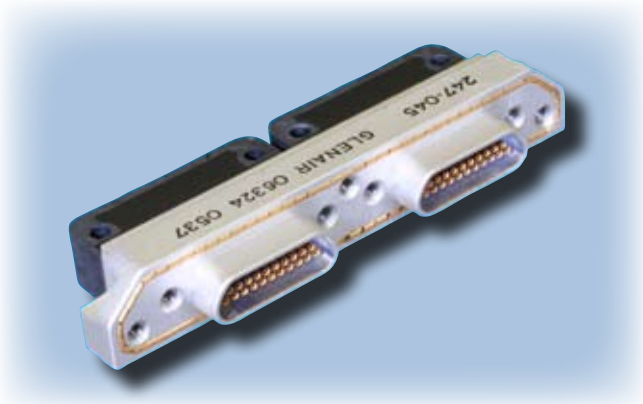
The evaluation of insertion loss is performed over a specific frequency range—i.e. a spectrum that extends from one limiting frequency to another. The intent being to measure signal degradation for each filter type across the actual operating frequencies of the equipment under consideration. Note that each filter type may yield different (theoretical and actual) insertion loss values depending on the specific capacitance and inductance [pF] ratings of the filter elements. Effective EMI/EMP filtering is, therefore, a balance between the purposeful attenuation of signal noise and the unfortunate degradation of signal strength—both conditions directly attributable to the insertion of the filter device into the system. Sensible EMC design should, as a consequence, always incorporate conventional grounding and shielding of interconnect cabling and equipment housings in anticipation of unexpected EMI problems. The tables on the opposite page explain predictable insertion loss [dB] for each filter type (C, L, and Pi), at the available capacitance ratings [pF] across a common frequency range [MHz].

Custom Options in Filtered Connectors

Glenair filter connector designs may be optimized for use in a wide range of application environments including avionic systems, down-hole drilling and logging devices, naval and marine platforms, network-centric ground warfare systems, and missile and satellite/space applications. Common electrical customizations include unique capacitance values on individual lines, electrostatic discharge designs, transient voltage suppression diodes, grounded holes and feed-throughs, as well as the incorporation of customer-specified filter architectures including Pi, C, L-C, C-L and T configurations.

Mechanical packaging options in EMI/EMP filter connectors include:

- Hybrid Fiber Optic/Electrical Contacts
- Hermetic Sealing
- Dual-Flange PCB Mount Designs
- Composite Thermoplastic Shell Materials
- Variable Length PCB Tails
- Piggy-Back Crimp Contacts
- EMI Grounding Fingers and Gaskets
- In-Line, Feed-Through, Plug and Other Shell Styles



Custom dual plan Micro-D filter connector with EMI gasket and right angle PCB mounting. Glenair can apply a broad range of custom shell configurations, filter values, TVS technologies—even hybrid fiber optic contacts—into any standard connector package.

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Introduction to Filter Connectors
Space Grade Applications, Soldering and Lightning Strike

Space Grade Applications

Nonmetallic materials such as rubber, plastic, adhesives and potting compounds can give off gasses when subjected to a vacuum or high heat. For space grade applications, Glenair is able to offer both both an 8 hour 400° bakeout process as well as a 24 hour 125° thermal vacuum outgassing process to insure our filter connector products do not give off gaseous molecules that might harm sensitive optical or electronic equipment.

The space industy has adopted a standardized test procedure, ASTM E 595, to evaluate outgassing properties of products that contain polymer materials. In the ASTM test, material samples are heated to 125° C at a vacuum of 5 X 10^{-5} torr for 24 hours. The test sample is then weighed to calculate the Total Mass Loss (TML), which may not exceed 1.00% of the total initial mass. Likewise the quantity of outgassed matter is weighed to determine the Collected Volitile Condensable Material (CVCM), which may not exceed 0.10% of the original specimen mass.

Glenair routinely performs both bakeout and thermal vacuum outgassing procedures on connector products that must conform to NASA screening or other outgassing standards. Our experience has been that the simpler bakeout process is more than adequate to meet the ASTM E 595 benchmark of 1.00% TML and 0.10% CVCM. Glenair is well versed in supplying filter connector products that are optimized for use in space grade applications, and we supply filter connectors compliant to EEE-INST-002, Table 2G, the recognized standard for spacegrade filter connectors.

Soldering

Our filter connector engineers are frequently asked about any special handling procedures that are required when soldering PC Tail and Solder-cup contacts. At issue is the potential to damage filter elements due to the high heat of the soldering process. The short answer is that any trained and qualified operator can complete the operation without any special precautions.

While it certainly can't hurt to take some basic precations such as preheating the connector or utilizing a heat sink on individual contacts, our tests have revealed that, under normal conditions, the temperature of the ceramic filter array is not radically raised during solder termination of the contacts. Even in tests where we used a solder iron temperature of 350°C and an extremely long ‘touch time’ of 90 seconds, no adverse effects were observed. In fact, temperature at the ceramic remained well below 100°C at all times.

While special precautions are not required for soldering, filter connectors should be cleaned only in a mated condition. Use a metal protective cover to protect the filter connector's sensitive components from cleaning fluid. In addition, limit bakeout temperatures to +125 C.

Composite Connectors and Lightning Strike

Composite thermoplastic materials, such as the 30% glass filled polyetherimide (PEI) used in Glenair's MIL-DTL-38999 Series III Wall Mount Receptacle Connector (240-011) have been tested for mechanical and electrical survivability to direct and indirect lightning strike. At issue is the ability of the composite connector shell to maintain its electrical continuity in the event of an intense voltage surge resulting from lightning strike.

In testing in accordance with MIL-STD-1344, items are subjected to waveform 1 and 5B using a high current generator. Items must remain functional without degredation of the unit's electrical performance, including filtering elements and TVS diodes and modules. Waveform 1 and 5B are applied starting at 3kA increasing to 20kA checking continuity measurments at set intervals. Waveform 1 is additionally subjected to an oscillatory wave starting at 30kA and increasing in 10kA steps until failure in continuity is measured.

While larger composite connector shell sizes (12 to 24) conform to MIL-STD-1344, smaller sizes (8 and 10) fail the test. Customers should select alternative materials, aluminum or stainless steel, when specifying small connector shell sizes in applications subject to lightning strike.

Absorption Loss: That part of shielding effectiveness dealing with energy absorption through a metal barrier.

Attenuation: Reduction in the quality or magnitude of an electrical signal. Suppression of EMI noise in the interconnect transmission path.

Aperture Leakage: Compromise in shielding effectiveness from holes, slits, and slots from braid, windows, cooling openings, and joints of metal boxes where EMI can get in or out.

Bandwidth: The frequency interval between the upper and lower 3 dB down response of a receiver.

Broadband EMI: Electrical disturbances whose frequency spectrum cover several octaves or decades in the frequency spectrum or exceed the receiver bandwidth.

Capacitance: The measure or ability of a multilayer ceramic planar array to capture and store electrical energy.

Common Mode (CM): As applied to two or more wires, all currents flowing therein with the same polarity .

Conducted Interference: EMI transmitted along an unshielded conductor or cable.

Coupling Path: The conducted or radiated path by which interfering energy gets from a source to a victim.

Cross Modulation: Energy from one transmitter that causes the modulation to change on a received signal from another transmitter.

Crosstalk: Electromagnetic energy bleed across dielectric materials, for example, in twisted pair cable sets or across adjacent connector contacts, disrupting the electrical signals in each respective circuit.

Differential Mode (DM): Voltages or currents on a wire pair that are of opposite polarity.

Dielectric Withstanding Voltage (DWV): Rating, expressed in volts at a given frequency at ambient temperature defining the maximum voltage a dielectric material can withstand before failing.

Drain: path by which charges absorbed by a conductor move to ground in a properly grounded system.

Electric Field: A radiated wave's potential gradient in volts per meter (V/m).

Electrical Gasket: A compressible bond used between two mating metal members to secure a low-impedance path between them.

EMC: Electromagnetic compatibility, the conditions under which all components of a system do not interfere with each other or with their environment.

EMI: Electromagnetic interference (opposite of EMC). Electromagnetic disturbance that degrades performance of electronic equipment.

EMP: Electromagnetic pulse. A broadband, high-intensity, short-duration burst of electromagnetic energy such as might occur as a result of a nuclear explosion.

ESD: Electrostatic discharge. A momentary (and unwanted) discharge of built-up electrical energy, usually from an electrically insulated object to an object with a different electrical potential.

Emission: Unwanted electromagnetic signal emanating from a piece of equipment.

Ferrite: Powdered magnetic material in form of beads, rods, and rings used to absorb EMI on wires and cables.

Field Strength: Radiated voltage or current per meter corresponding to electric or magnetic fields.

Filter: A device to block the flow of EMI while passing the desired signal frequencies.

Grounding: A conductive path to earth designed to eliminate electrical shock by shunting away dangerous currents.

Impulse Noise: A transient electrical disturbance, usually repetitive.

Inductors: Used with capacitors to form tuned circuits to filter out specific signal frequencies.

Magnetic Field: A radiated wave's current gradient, expressed in amperes per meter (A/m).

Multilayer Planar Array: Multi-layer ceramic EMI filter device housed in a connector. The most widely applied type of EMI filter.

Narrowband : EMI Interference whose emission bandwidth is less than the bandwidth of the EMI measuring receiver or spectrum analyzer.

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Introduction to Filter Connectors
EMI/EMP Glossary

Power Conditioning: Reduction of EMI pollution on power mains by inserting filters, isolators, regulators, or an uninterruptible power supply (UPS).

Radiated Interference: EMI or noise transmitted from any electrical system, from power-lines to mobile telephones.

Radio Frequency Interference (RFI): A special class of electromagnetic interference in which radio frequency transmissions cause unintentional problems in equipment operation.

Reflection Loss: Shielding effectiveness due to energy reflection from impedance mismatch between incident field and metal barrier.

Roll-Off: The frequency in an attenuation curve at which a filter begins to reduce the quality or magnitude of an electrical signal.

Shielding Effectiveness (SE): The ratio of field strengths (absorption and reflection losses) before and after installing a shield.

Shot Noise: The noise caused by random fluctuations in the motion of charge carriers such as electrons in a conductor.

Skin Depth: The calculated metal layer thickness through which some 63 percent of the surface current flows.

Surge: A sudden voltage increase on the power mains.

TEMPEST: Transient Electromagnetic Pulse Surveillance Technology.

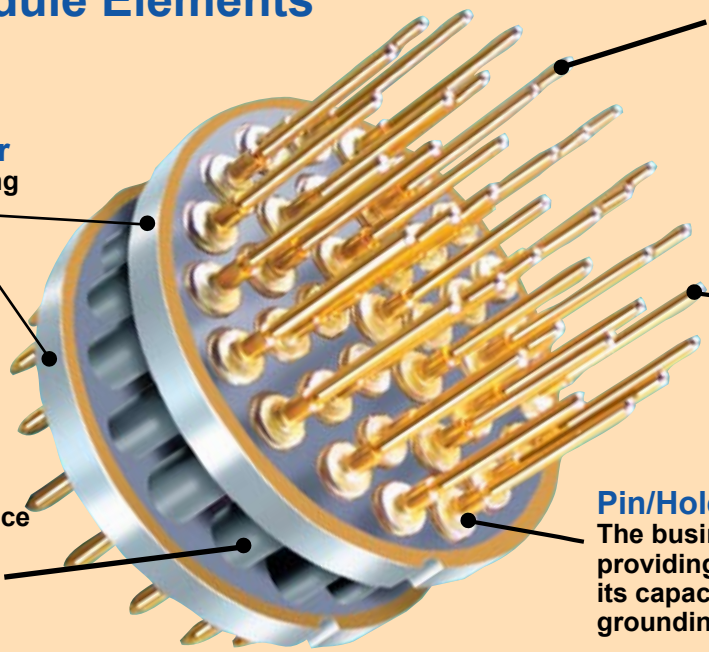
Transfer Impedance (Z_t): The quality of cable shield performance calculated by the ratio of the coupled voltage to the surface current, in ohms per meter (Ω/m).

Transient: A short-duration voltage surge due to a lightning strike or other dynamic event.

UPS: Uninterruptible power supply.

Waveform: For lightning events, measure of electrical transient exposure level and surge severity.

Filter Module Elements



Contact Types: Choose from Solder Cup, PC Tail or Piggy-Back Crimp (Consult Factory for PC Tail Length Options).

Multilayer Ceramic Planar Array: Containing a network of capacitors, feedthrus and ground lines.

Contact Material: Gold Plated Copper Alloy.

Inductors: Ferrite Beads to provide inductance and increase insertion loss

Pin/Hole Intersection: The business-end of the filter, providing each contact with its capacitance value and grounding.

Introduction to Filter Connectors
RoHS Compliance and
Preference for Domestic Specialty Metals Statement

Glenair Statement on RoHS Compliance

European Union Directive 2002/95/EC on Restriction of the use of certain Hazardous Substances ("RoHS") states that certain types of OEM equipment (primarily consumer electronic products such as personal computers) shall not contain lead, mercury, cadmium, hexavalent chromium, PBB's or PBDE's. For the record, Glenair does not produce any OEM products of this type. Furthermore, our interconnect components are either free of the substances RoHS controls, or specifically intended for use in military-aerospace applications that are exempt. Accordingly, Glenair will continue to offer cadmium and chromate finishes in accordance with DoD and aerospace specifications and as required by these customers. Makers of consumer products should refer to RoHS guidelines to insure interconnect components are correctly specified when used in in RoHS regulated electronic equipment. Consumer product manufacturers may also refer to the following table to insure any products they may specify from this catalog are equipped with RoHS compliant materials and finishes. Going forward, Glenair will gladly employ substitutes to current military-aerospace materials and finishes as they are proven reliable and as military standards permit.

CONNECTOR AND BACKSHELL PLATING: RoHS COMPLIANCE

Plating Type	RoHS Compliance	Notes
Cadmium with yellow or olive drab chromate conversion coating over electroless nickel	No	Electroless nickel is the preferred alternate.
Electroless nickel	RoHS-Compliant 2002/95/EC	First choice for RoHS compliance. Good corrosion resistance, excellent conductivity, M83513 approved, always in stock.
Stainless steel shell, passivated	RoHS-Compliant 2002/95/EC	Higher cost but unsurpassed corrosion resistance, not conductive enough for typical EMI needs. Build-to-order.
Gold over aluminum	RoHS-Compliant 2002/95/EC	Low volume, higher cost, excellent conductivity. Build-to-order.
Ni-PTFE *1000 Hour Grey™* Nickel Fluorocarbon Polymer	RoHS-Compliant 2002/95/EC	Conductive, CAD-Free, 1000 hr. salt spray plating offers outstanding corrosion protection. MIL-DTL-38999 Rev. L
Chem film	No	Electroless nickel is the preferred alternate.

Preferance for Domestic Specialty Metals Statement

For parts we make and sell, we comply with the Preference for Domestic Specialty Metals requirements (as modified by Alternate 1, Deviation 20008-00002) that, additionally, are required to meet US Military Specifications, Federal Specifications, or ASTM (or other industry) Specifications. Vendors certify (and are audited) to adherence with these requirements with each purchase order fulfilled. Glenair parts are in compliance with DFARS 252.225-7014, Alternate 1, Deviation 20008-00002, "Preference for Domestic Specialty Metals."

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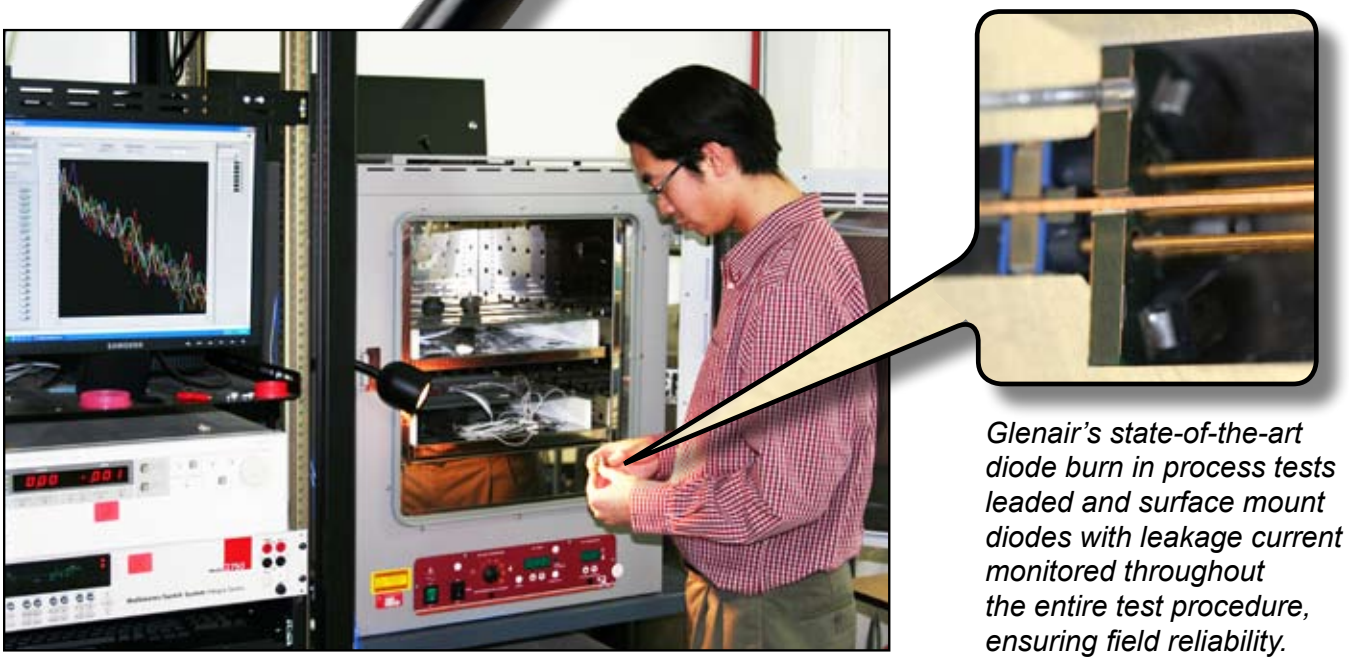
Glenair Diode Burn-In Services: Fast, Reliable and Comprehensive

In addition to complete system design for EMI/RFI filtering applications and transient over-voltage suppression, Glenair offers in-house high temperature reverse bias (HTRB) diode burn-in services—a screening process designed to ensure Transient Voltage Suppression diode reliability. The reliability of TVS devices is of extreme importance due to the mission-critical role TVS protected electronic equipment plays in aerospace, communications, command and control systems. Failure of a diode is generally attributed to a physical defect in the part. Diode failure modes can include thermal fatigue, contact migration and other factors which can contribute to a short-circuit mode. Industry-standard qualification tests have been developed with stress levels matched to application requirements. The HTRB test is used to monitor off-state leakage currents to reveal any failure modes prior to final assembly. In general, semiconductor manufacturers can take weeks to deliver tested diodes, whereas Glenair currently takes only days. Our test lab has the capabilities to test surface mount or leaded diodes. Leakage current is monitored throughout the burn-in process. Other labs may just take readings only before and after cycling, potentially missing weak diodes that could fail in the field. Glenair takes and records multiple reading throughout the burn-in process to ensure highest reliability of HTRB services. For this reason, you can count on Glenair for unparalleled diode reliability testing.



Glenair's state-of-the-art diode burn in process tests leaded and surface mount diodes with leakage current monitored throughout the entire test procedure, ensuring field reliability.

Military Standard Type Circular Filtered Connectors
MIL-DTL-38999, MIL-DTL-26482, and MIL-DTL-83723

PRODUCT FEATURES

- **All Filter Connector Styles Meet or Exceed Applicable Military Standards**
- **C and Pi Circuit Filters from 400 pF to 240,000 pF**
- **All Connector Series are Intermateable with Standard (Non-Filtered) Plugs and Connector Adapters**
- **Broadest Range of Insert Arrangements for MIL-DTL-38999 Series I, II, III and IV**
- **PC Tail, Solder Cup and Crimp-Contact Versions**
- **Space-Grade Bake-Out Processing Available**
- **Transient Voltage Suppression Diodes Available**

The Industry's Best Short Lead-Time Source for Planar Array Type EMI/EMP Filter Connectors

Military Standard Type Series

Glenair's family of circular military standard type EMI/EMP filter connectors is designed to meet stringent military/aerospace performance requirements. Each connector series is offered with standard low-pass Pi or C filter arrays, or with customized filters to meet specific frequency and capacitance requirements. Thermally conductive epoxy protects the filter package from mechanical and heat stress and also provides a waterproof seal. All filtered receptacles are intermateable with standard plugs and connector savers, and each respective series of connectors is supplied with a range of shell styles in both environmental and hermetic configurations. Please see the "How to Order" page for available styles for each series:

MATERIAL AND FINISHES

Contacts	Beryllium Copper Alloy, 50 µ Inch Gold Plated per ASTM B488 Type 3, Code C, Class 1,27 over Nickel Underplate per QQ-N-290 Class 2. Socket Contact Hood: Corrosion Resistant Steel, Passivated.
Insulator	Liquid Crystal Polymer (LCP) per MIL-M-24519 GLP-30F, 30% Glass-Filled
Interfacial Seal, O-Ring, and Peripheral Seal	Flourosilicone Elastomer per A-A-59588, Color Blue
Shell, Jam Nut Material	Aluminum Alloy per ASTM B 211 or ASTM B 221 or Corrosion Resistant Steel per AMS-QQ-S-763
Shell and Jam Nut Finish	Code M: Electroless Nickel per AMS-C-26074 (96 Hour Salt Spray) Code NF: Olive Drab Cadmium per AMS-QQ-P-416 over Electroless Nickel (500 Hour Salt Spray) Code P: Stainless Steel with Electro-Deposited Nickel Code MT: Ni-PTFE *1000 Hour Grey™* (Nickel Fluorcarbon Polymer) per MIL-DTL-38999 Rev. L
Potting Compound	Thermally Conductive Epoxy

Glenair MIL-DTL-38999 Series I Type Scoop-Proof Filter Connector with Bayonet Coupling

Master How to Order • Part Number Breakdown

MIL-DTL-38999 Series I

Insert Arrangement
Per MIL-STD-1560

Capacitance (See Table II)

Termination*
***S** - Solder Cup*
***P** - PC Tail*
C** - Crimp
*Omit for Connector Adapter.
**Crimp Option applies to shell style R only.

Alternate Key Position
Per MIL-DTL-38999
A, B, C, D, N = Normal
U = Universal
(Connector Adapters Only)

Filter Connector Product Code

Connector Class (See Table I)

240	-	381	J	M	15-35	P	S	P	A	C	N

Shell Style
***W** - Wall Mount*
***R** - Crimp Removable Wall Mount*
***J** - Jam Nut*
***A** - Connector Adapter*

Contact Gender
***P** - Pin*
***S** - Socket*
***PS** - Conn. Adapter (Pins, Plug Side)*
***SP** - Conn. Adapter (Sockets, Plug Side)*

Filter Type
***P** - Pi Circuit*
***C** - C Circuit*

Flange Mounting Style
***N** - Not Applicable/Mfgs. Option*
***H** - Chamfered Holes*
***C** - Clinch Nuts (4-40 UNC)*
***M** - Metric Clinch Nuts (M3)*

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

TABLE I: CONNECTOR CLASS

SYM	CLASS	MATERIAL	FINISH DESCRIPTION
M	Environmental	Aluminum	Electroless Nickel
MT	Environmental	Aluminum	Ni-PTFE *1000 Hour Grey™* Nickel Fluorocarbon Polymer
NF	Environmental	Aluminum	Cadmium O.D. Over Electroless Nickel
P	Environmental	Stainless Steel	Electro-Deposited Nickel
ZN	Environmental	Aluminum	Zinc-Nickel Over Electroless Nickel

TABLE II: CAPACITOR ARRAY CODE CAPACITANCE RANGE

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

* Reduced DWV – Please consult factory.

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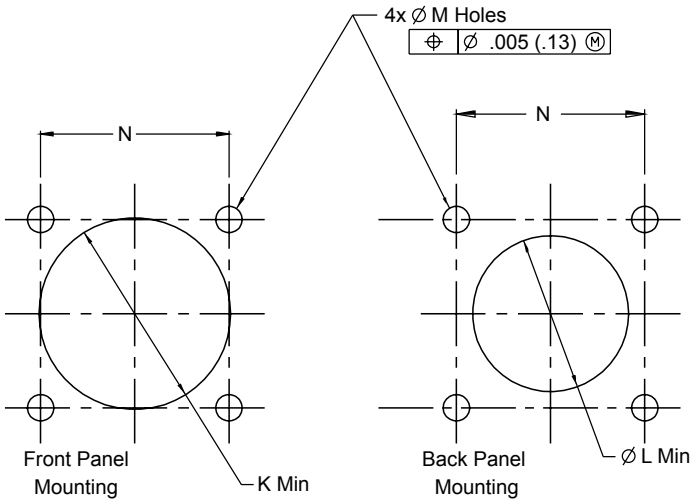
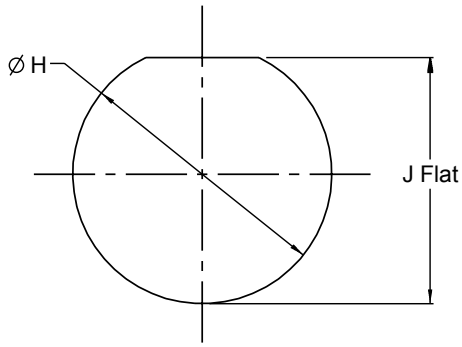
Glenair MIL-DTL-38999 Series I Type Scoop-Proof Filter Connector with Bayonet Coupling
Reference Information





MIL-DTL-38999 Series I Square Flange Panel Cutouts

Shell Size Code	Shell Size	⌀ K Min	⌀ L Min	M Holes	N BSC
A	09	.656 (16.7)	.516 (13.1)	.133 (3.4) .123 (3.1)	.719 (18.3)
B	11	.796 (20.2)	.625 (15.9)	.133 (3.4) .123 (3.1)	.812 (20.6)
C	13	.922 (23.4)	.750 (19.1)	.133 (3.4) .123 (3.1)	.906 (23.0)
D	15	1.047 (26.6)	.906 (23.0)	.133 (3.4) .123 (3.1)	.969 (24.6)
E	17	1.219 (31.0)	1.016 (25.8)	.133 (3.4) .123 (3.1)	1.062 (27.0)
F	19	1.297 (32.9)	1.141 (29.0)	.133 (3.4) .123 (3.1)	1.156 (29.4)
G	21	1.422 (36.1)	1.266 (32.2)	.133 (3.4) .123 (3.1)	1.250 (31.8)
H	23	1.547 (39.3)	1.375 (34.9)	.159 (4.0) .149 (3.8)	1.375 (34.9)
J	25	1.672 (42.5)	1.484 (37.7)	.155 (3.9) .145 (3.7)	1.500 (38.1)

MIL-DTL-38999 Series I Jam Nut Panel Cutout

SHELL SIZE CODE	SHELL SIZE	Ø H	J
A	09	.710 (18.0) .700 (17.8)	.670 (17.0) .660 (16.8)
B	11	.835 (21.2) .825 (21.0)	.771 (19.6) .761 (19.3)
C	13	1.020 (25.9) 1.010 (25.7)	.955 (24.3) .945 (24.0)
D	15	1.145 (29.1) 1.135 (28.8)	1.085 (27.6) 1.075 (27.3)
E	17	1.270 (32.3) 1.260 (32.0)	1.210 (30.7) 1.200 (30.5)
F	19	1.395 (35.4) 1.385 (35.2)	1.335 (33.9) 1.325 (33.7)
G	21	1.520 (38.6) 1.510 (38.4)	1.460 (37.1) 1.450 (36.8)
H	23	1.645 (41.8) 1.635 (41.5)	1.585 (40.3) 1.575 (40.0)
J	25	1.770 (45.0) 1.760 (44.7)	1.710 (43.4) 1.700 (43.2)

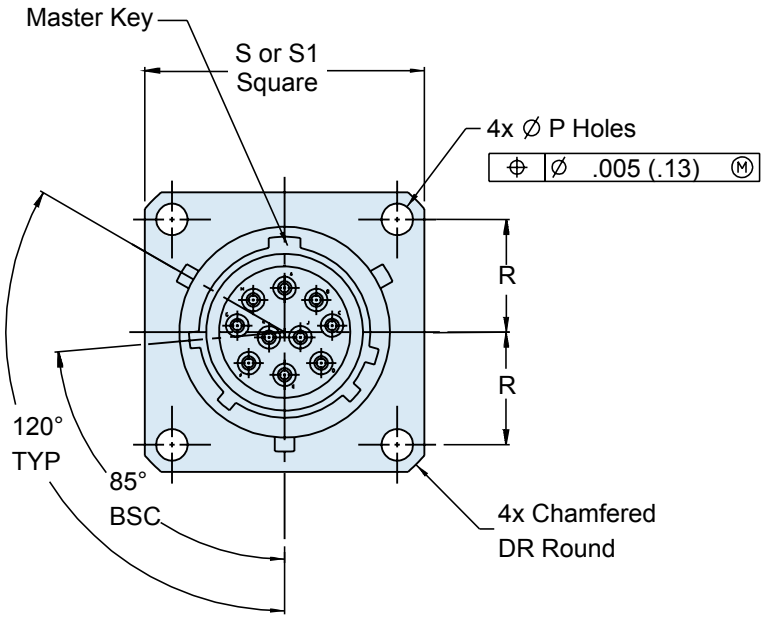
APPLICATION NOTES

1. Materials/Finishes: Shells, Barrel, Coupling Nut, Jam Nut - See Table I
   Insulators - high grade rigid dielectric/N.A.
   Seals - Flourosilicone
   PC Tail & Solder Cup contacts: 50µ" Gold over 50µ" Nickel
2. Assembly to be identified with Glenair's name, part number, and date code - space permitting.
3. Insert Arrangement in accordance with MIL-STD-1560. (Arrangement shown for reference only)
4. EMI Circular Filter Receptacle connector designed to meet requirements of MIL-STD-2120 and MIL-DTL-38999, Series I.
5. All contacts to have identical filter value. Other filter arrangements available, contact factory.
6. Electrical Ratings: DWV- 500 VDC Min.; Standard Operating Voltage 200 Volts DC; Current Rating 5 Amps (size 22);
7. Insulation Resistance: 5000 MegOhms Min. at 200 VDC.
8. Operating Temperature -55°C to +125°C (Env Class Connectors)
9. Other filter styles (C-L, L-C, Unbalanced PI, Multi-Stage, Multi-Value) are available, please consult the factory.
10. Metric Dimensions (mm) are indicated in parentheses.

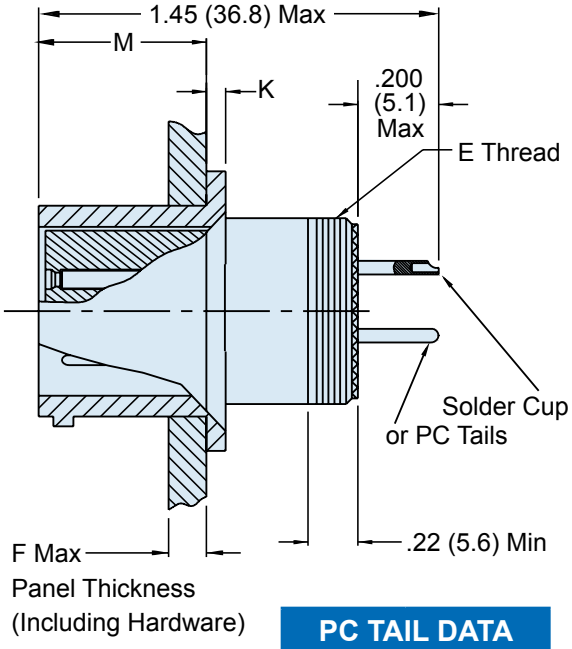
240-381W
MIL-DTL-38999 Series I Type Filter Connector
Wall Mount Receptacle

240	-	381	W	NF	15-35	P	S	P	A	C	N

- **240** — Filter Connector Product Code
- **381** — MIL-DTL-38999 Series I
- **W** — Shell Style: *W - Wall Mount*
- **NF** — Connector Class: *(See Table I)*
- **15-35** — Insert Arrangement: *IAW MIL-STD-1560*
- **P** — Contact Gender: *P - Pin*, *S - Socket*
- **S** — Termination: *S - Solder Cup*, *P - PC Tail*
- **P** — Filter Type: *P - Pi Circuit*, *C - C Circuit*
- **A** — Alternate Key Position: Per MIL-DTL-38999, *A, B, C, D, N = Normal*
- **C** — Capacitance: *(See Table II)*
- **N** — Flange Mounting Style: *H - Round Holes*, *C - Clinch Nuts (4-40 UNC)*, *M - Metric Clinch Nuts (M3)*



***W** - Wall Mount*



PC TAIL DATA	
Contact Size	**PC Tail Ø**
22D	.021 .018
20	.031 .029
16	.038 .042

240-381W
MIL-DTL-38999 Series I Type Filter Connector
Wall Mount Receptacle

MIL-DTL-38999 Series I Square Flange Panel Cutouts

Shell Size Code	Shell Size	⌀ K Min Back Panel	⌀ L Min Front Panel	M Holes	N BSC
A	09	.656 (16.7)	.625 (15.9)	.133 (3.4) .123 (3.1)	.719 (18.3)
B	11	.796 (20.2)	.750 (19.1)	.133 (3.4) .123 (3.1)	.812 (20.6)
C	13	.922 (23.4)	.906 (23.0)	.133 (3.4) .123 (3.1)	.906 (23.0)
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H	23	1.547 (39.3)	1.375 (34.9)	.159 (4.0) .149 (3.8)	1.375 (34.9)
J	25	1.672 (42.5)	1.484 (37.7)	.155 (3.9) .145 (3.7)	1.500 (38.1)

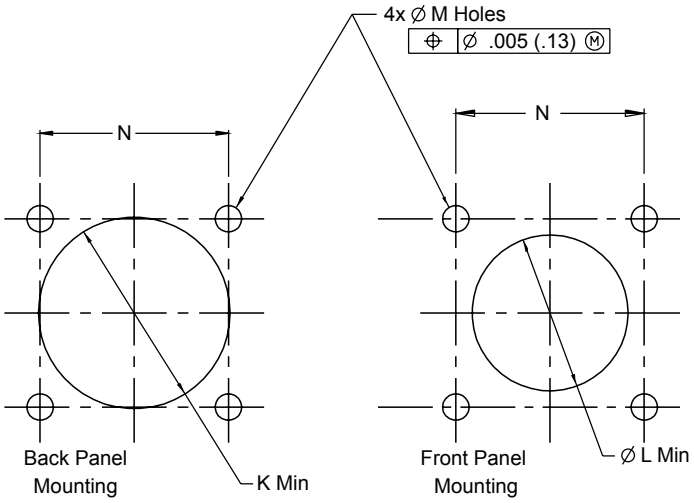

TABLE I: CONNECTOR CLASS

SYM	CLASS	MATERIAL	FINISH DESCRIPTION
ME	Environmental	Aluminum	Electroless Nickel
MT	Environmental	Aluminum	Ni-PTFE *1000 Hour Grey™* Nickel Fluorocarbon Polymer
NF	Environmental	Aluminum	Cadmium O.D. Over Electroless Nickel
P	Environmental	Stainless Steel	Electro-Deposited Nickel
ZN	Environmental	Aluminum	Zinc-Nickel Over Electroless Nickel

TABLE II: CAPACITOR ARRAY CODE CAPACITANCE RANGE

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

* Reduced DWV – Please consult factory.

DIMENSIONS

SHELL SIZE	E THREADS*	F MAX	K + .015 (.4) - .000 (0)	M + .000 (0) - .005 (.13)	⌀ P + .010 (.3) - .005 (.13)	R BSC	S Thru Hole Flange ± .020 (5.1)	S1 Clinch Nut Flange ± .020 (5.1)
9	.5625-24 UNEF-2A	.234 (5.9)	.085 (2.2)	.820 (20.8)	.128 (3.3)	.3595 (9.1)	.938 (23.8)	1.019 (25.9)
11	.6875-24 UNEF-2A	.234 (5.9)	.085 (2.2)	.820 (20.8)	.128 (3.3)	.406 (10.3)	1.031 (26.2)	1.112 (28.2)
13	.8125-20 UNEF-2A	.234 (5.9)	.085 (2.2)	.820 (20.8)	.128 (3.3)	.453 (11.5)	1.125 (28.6)	1.206 (30.6)
15	.9375-20 UNEF-2A	.234 (5.9)	.085 (2.2)	.820 (20.8)	.128 (3.3)	.4845 (12.3)	1.219 (31.0)	1.269 (32.2)
17	1.0625-18 UNEF-2A	.234 (5.9)	.085 (2.2)	.820 (20.8)	.128 (3.3)	.531 (13.5)	1.312 (33.3)	1.362 (34.6)
19	1.0625-18 UNEF-2A	.234 (5.9)	.085 (2.2)	.820 (20.8)	.128 (3.3)	.578 (14.7)	1.438 (36.5)	1.456 (37.0)
21	1.1875-18 UNEF-2A	.204 (5.2)	.115 (2.9)	.790 (20.1)	.128 (3.3)	.625 (15.9)	1.562 (39.7)	1.562 (39.7)
23	1.3125-18 UNEF-2A	.204 (5.2)	.115 (2.9)	.790 (20.1)	.147 (3.7)	.6875 (17.5)	1.688 (42.9)	1.719 (43.7)
25	1.4375-18 UNEF-2A	.193 (4.9)	.115 (2.9)	.790 (20.1)	.147 (3.7)	.750 (19.1)	1.812 (46.0)	1.844 (46.8)

* "E" Accessory threads for shell size 9-17 are one size larger than MIL-DTL-38999, Series I to accommodate filters.

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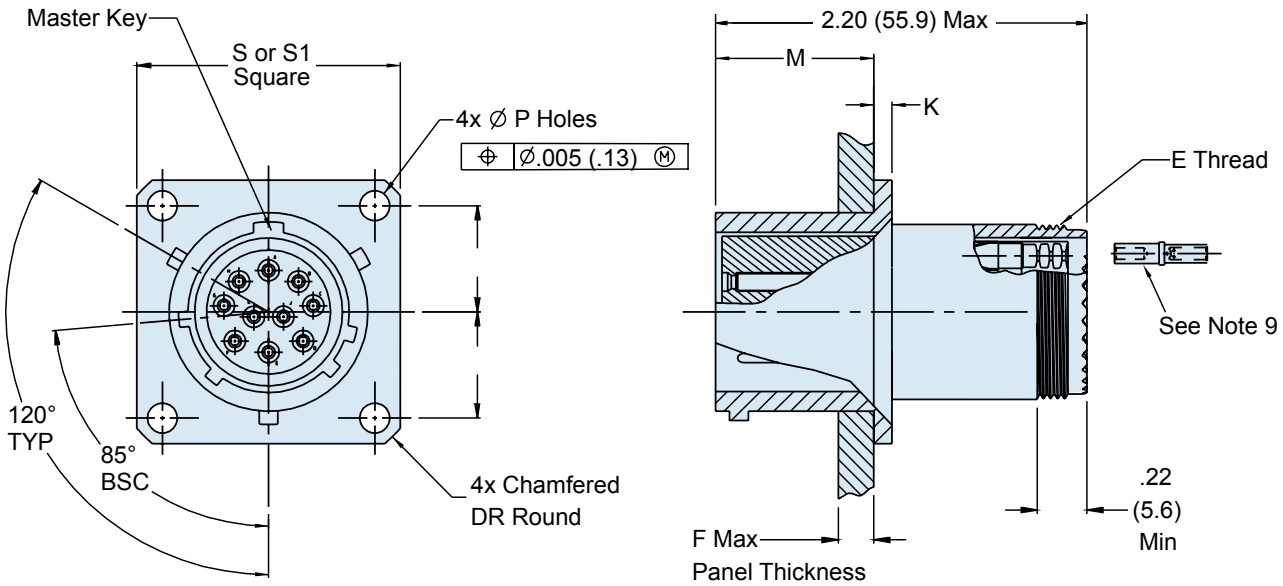
240-381R
MIL-DTL-38999 Series I Type Filter Connector
Wall Mount Receptacle
with Crimp Removable Contacts

240	-	381	R	NF	15-35	P	C	P	A	C	N

- **MIL-DTL-38999 Series I**
- **Filter Connector Product Code**
- **Contact Gender**
  - *P - Pin*
  - *S - Socket*
- **Alternate Key Position**
  Per MIL-DTL-38999
  A, B, C, D, N = Normal
- **Insert Arrangement**
  IAW MIL-STD-1560
- **Filter Type**
  P - Pi Circuit
  C - C Circuit
- **Capacitance**
  (See Table II)
- **Shell Style**
  R - Crimp Removable Wall Mount
- **Connector Class**
  (See Table I)
- **Termination**
  C - Crimp
- **Flange Mounting Style**
  H - Round Holes
  C - Clinch Nuts (4-40 UNC)
  M - Metric Clinch Nuts (M3)

NOTE: Crimp removable contacts to conform to MIL-C-39029/57-358, Size 16, MIL-C-39029/57-357 Size 20, and MIL-C-39029/57-354 Size 22D (Supplied loose).



R *- Crimp Removable Wall Mount*

240-381R
MIL-DTL-38999 Series I Type Filter Connector
Wall Mount Receptacle
with Crimp Removable Contacts

MIL-DTL-38999 Series I Square Flange Panel Cutouts

Shell Size Code	Shell Size	⌀ K Min Back Panel	⌀ L Min Front Panel	M Holes	N BSC
A	09	.656 (16.7)	.625 (15.9)	.133 (3.4) .123 (3.1)	.719 (18.3)
B	11	.796 (20.2)	.750 (19.1)	.133 (3.4) .123 (3.1)	.812 (20.6)
C	13	.922 (23.4)	.906 (23.0)	.133 (3.4) .123 (3.1)	.906 (23.0)
D	15	1.047 (26.6)	1.016 (25.8)	.133 (3.4) .123 (3.1)	.969 (24.6)
E	17	1.219 (31.0)	1.141 (29.0)	.133 (3.4) .123 (3.1)	1.062 (27.0)
F	19	1.297 (32.9)	1.141 (29.0)	.133 (3.4) .123 (3.1)	1.156 (29.4)
G	21	1.422 (36.1)	1.266 (32.2)	.133 (3.4) .123 (3.1)	1.250 (31.8)
H	23	1.547 (39.3)	1.375 (34.9)	.159 (4.0) .149 (3.8)	1.375 (34.9)
J	25	1.672 (42.5)	1.484 (37.7)	.155 (3.9) .145 (3.7)	1.500 (38.1)

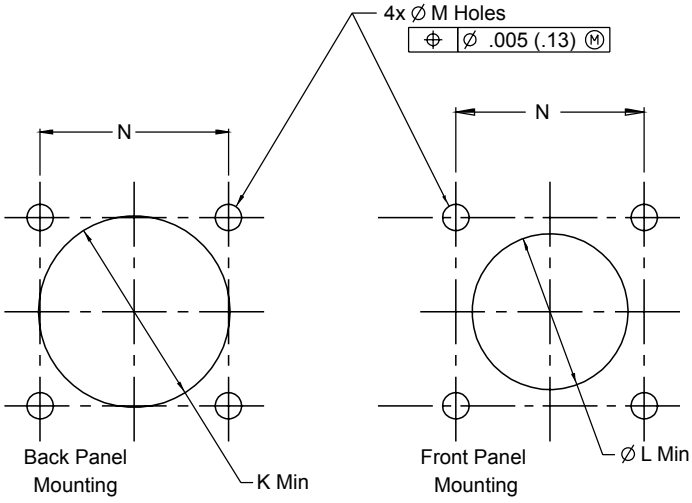


TABLE I: CONNECTOR CLASS

SYM	CLASS	MATERIAL	FINISH DESCRIPTION
ME	Environmental	Aluminum	Electroless Nickel
MT	Environmental	Aluminum	Ni-PTFE *1000 Hour Grey™* Nickel Fluorocarbon Polymer
NF	Environmental	Aluminum	Cadmium O.D. Over Electroless Nickel
P	Environmental	Stainless Steel	Electro-Deposited Nickel
ZN	Environmental	Aluminum	Zinc-Nickel Over Electroless Nickel

TABLE II: CAPACITOR ARRAY CODE CAPACITANCE RANGE

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

* Reduced DWV – Please consult factory.

DIMENSIONS

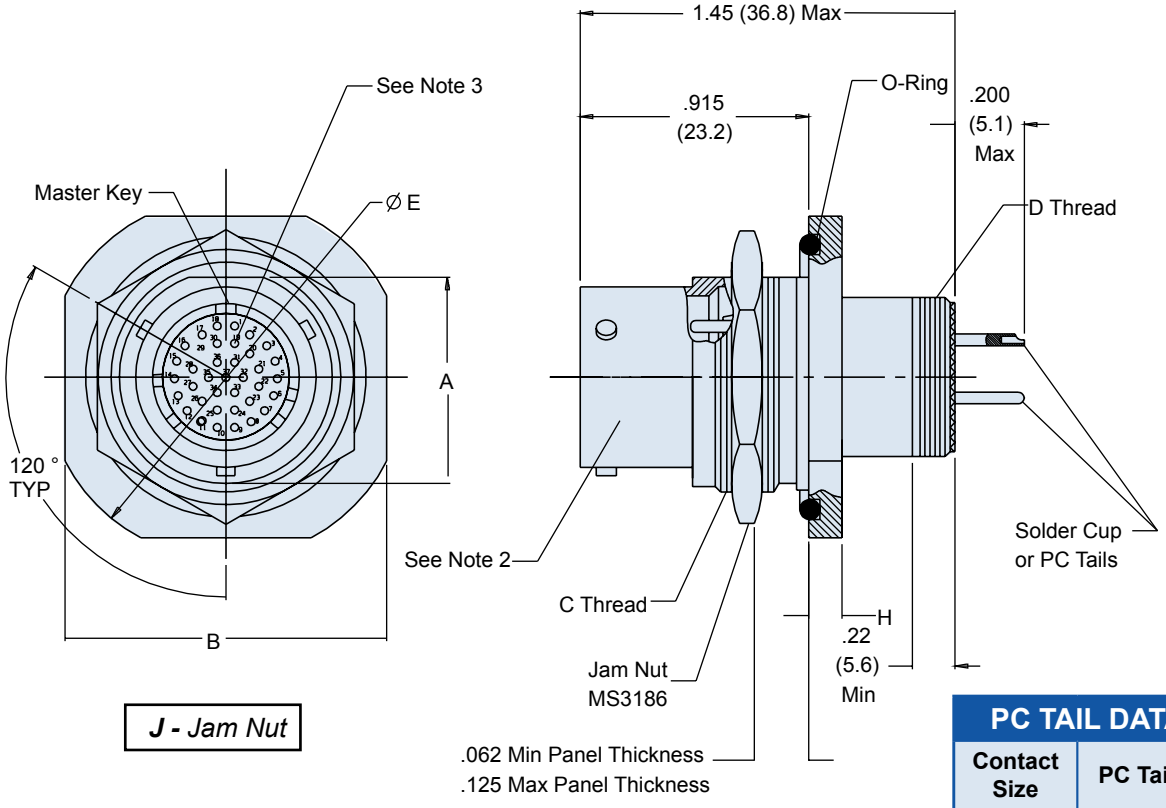
SHELL SIZE	E THREADS*	F MAX	K + .015 (.4) - .000 (0)	M + .000 (0) - .005 (.13)	⌀ P + .010 (.3) - .005 (.13)	R BSC	S Thru Hole Flange ± .020 (5.1)	S1 Clinch Nut Flange ± .020 (5.1)
9	.5625-24 UNEF-2A	.234 (5.9)	.085 (2.2)	.820 (20.8)	.128 (3.3)	.3595 (9.1)	.938 (23.8)	1.019 (25.9)
11	.6875-24 UNEF-2A	.234 (5.9)	.085 (2.2)	.820 (20.8)	.128 (3.3)	.406 (10.3)	1.031 (26.2)	1.112 (28.2)
13	.8125-20 UNEF-2A	.234 (5.9)	.085 (2.2)	.820 (20.8)	.128 (3.3)	.453 (11.5)	1.125 (28.6)	1.206 (30.6)
15	.9375-20 UNEF-2A	.234 (5.9)	.085 (2.2)	.820 (20.8)	.128 (3.3)	.4845 (12.3)	1.219 (31.0)	1.269 (32.2)
17	1.0625-18 UNEF-2A	.234 (5.9)	.085 (2.2)	.820 (20.8)	.128 (3.3)	.531 (13.5)	1.312 (33.3)	1.362 (34.6)
19	1.0625-18 UNEF-2A	.234 (5.9)	.085 (2.2)	.820 (20.8)	.128 (3.3)	.578 (14.7)	1.438 (36.5)	1.456 (37.0)
21	1.1875-18 UNEF-2A	.204 (5.2)	.115 (2.9)	.790 (20.1)	.128 (3.3)	.625 (15.9)	1.562 (39.7)	1.562 (39.7)
23	1.3125-18 UNEF-2A	.204 (5.2)	.115 (2.9)	.790 (20.1)	.147 (3.7)	.6875 (17.5)	1.688 (42.9)	1.719 (43.7)
25	1.4375-18 UNEF-2A	.193 (4.9)	.115 (2.9)	.790 (20.1)	.147 (3.7)	.750 (19.1)	1.812 (46.0)	1.844 (46.8)

* "E" Accessory threads for shell size 9-17 are one size larger than MIL-DTL-38999, Series I to accommodate filters.

CAGE CODE 06324
Printed in U.S.A.

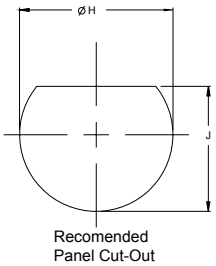
240-381J
MIL-DTL-38999 Series I Type Filter Connector
Jam Nut Receptacle

240	-	381	J	P	15-35	P	S	P	A	N	N
Filter Connector Product Code		MIL-DTL-38999 Series I	Shell Style *J - Jam Nut*	Insert Arrangement *IAW MIL-STD-1560*	Connector Class *(See Table I)*	Contact Gender *P - Pin* *S - Socket*	Termination *S - Solder Cup* *P - PC Tail*	Filter Type *P - Pi Circuit* *C - C Circuit*	Capacitance *(See Table II)*	Flange Mounting Style *N - Not Applicable*	Alternate Key Position Per MIL-DTL-38999 *A, B, C, D, N = Normal*



J - Jam Nut

PC TAIL DATA	
Contact Size	**PC Tail Ø**
22D	.020 .018
20	.024 .029
16	.038 .042



Recomended
Panel Cut-Out

TABLE II: CAPACITOR ARRAY CODE CAPACITANCE RANGE

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

* Reduced DWV – Please consult factory.

TABLE I: CONNECTOR CLASS

SYM	CLASS	MATERIAL	FINISH DESCRIPTION
M	Environmental	Aluminum	Electroless Nickel
MT	Environmental	Aluminum	Ni-PTFE *1000 Hour Grey™* Nickel Fluorocarbon Polymer
NF	Environmental	Aluminum	Cadmium O.D. Over Electroless Nickel
P	Environmental	Stainless Steel	Electro-Deposited Nickel
ZN	Environmental	Aluminum	Zinc-Nickel Over Electroless Nickel

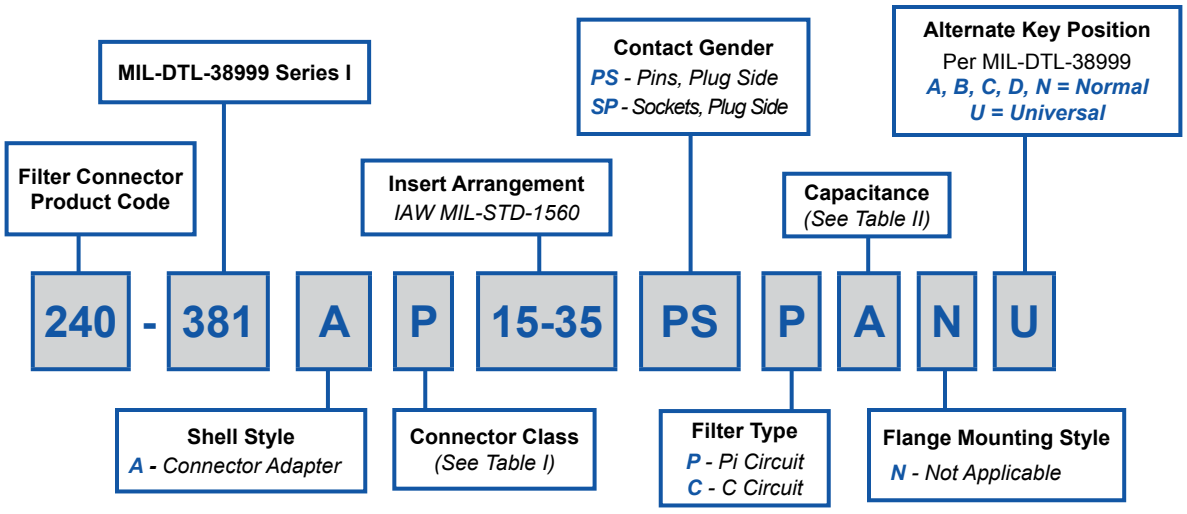
MIL-DTL-38999 Series I Jam Nut Panel Cutout

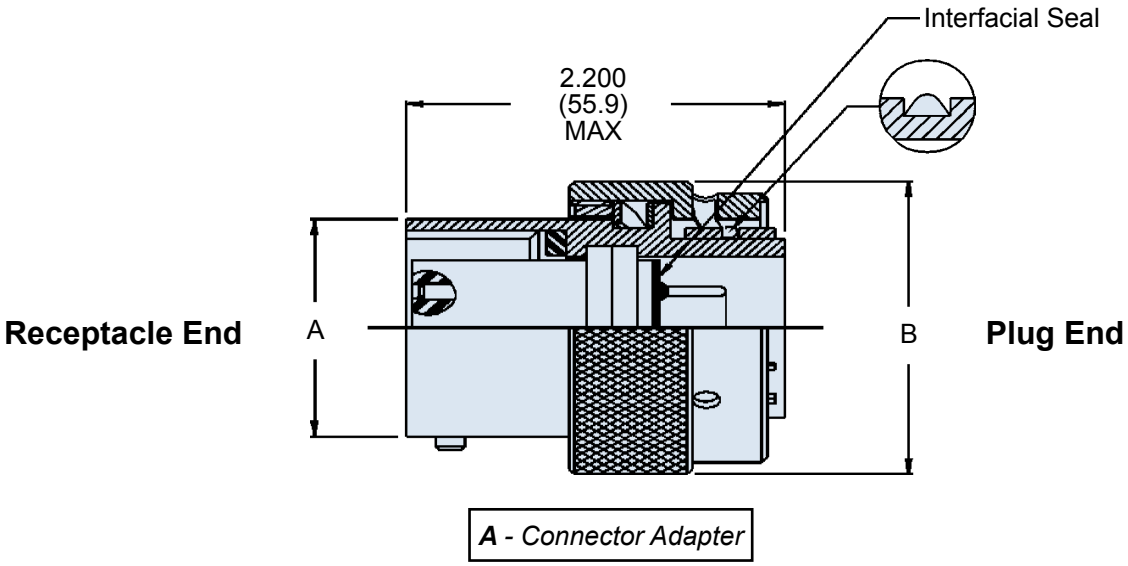
SHELL SIZE CODE	SHELL SIZE	∅ H	J
A	09	.710 (18.0) .700 (17.8)	.670 (17.0) .660 (16.8)
B	11	.835 (21.2) .825 (21.0)	.771 (19.6) .761 (19.3)
C	13	1.020 (25.9) 1.010 (25.7)	.955 (24.3) .945 (24.0)
D	15	1.145 (29.1) 1.135 (28.8)	1.085 (27.6) 1.075 (27.3)
E	17	1.270 (32.3) 1.260 (32.0)	1.210 (30.7) 1.200 (30.5)
F	19	1.395 (35.4) 1.385 (35.2)	1.335 (33.9) 1.325 (33.7)
G	21	1.520 (38.6) 1.510 (38.4)	1.460 (37.1) 1.450 (36.8)
H	23	1.645 (41.8) 1.635 (41.5)	1.585 (40.3) 1.575 (40.0)
J	25	1.770 (45.0) 1.760 (44.7)	1.710 (43.4) 1.700 (43.2)

DIMENSIONS

SHELL SIZE	A	B	C THREAD CLASS 2A UNEF PLATED	D THREAD CLASS 2A UNEF PLATED	E DIA	F	G DIA	H
9	.855 (21.7) .645 (16.4)	1.078 (27.4) 1.046 (26.6)	.6875-24	.4375-28	1.188 (30.2)	.670 (17.0) .661 (16.8)	.709 (18.0) .700 (17.8)	.120 (3.0) .100 (2.5)
11	.755 (19.2) .745 (18.9)	1.266 (32.2) 1.234 (31.3)	.8125-20	.5625-24	1.375 (34.9)	.771 (19.6) .762 (19.4)	.834 (21.2) .825 (21.0)	.120 (3.0) .100 (2.5)
13	.942 (23.9) .932 (23.7)	1.391 (35.3) 1.359 (34.5)	1.0000-20	.8875-24	1.500 (38.1)	.955 (24.3) .946 (24.0)	1.019 (25.9) 1.010 (25.7)	.120 (3.0) .100 (2.5)
15	1.066 (27.1) 1.056 (26.8)	1.516 (38.5) 1.484 (37.7)	1.1250-18	.8125-20	1.625 (41.3)	1.085 (27.6) 1.076 (27.3)	1.144 (29.1) 1.135 (28.8)	.120 (3.0) .100 (2.5)
17	1.191 (30.3) 1.181 (30.0)	1.641 (41.7) 1.609 (40.9)	1.2500-18	.9375-20	1.750 (44.5)	1.210 (30.7) 1.201 (30.5)	1.269 (32.2) 1.260 (32.0)	.120 (3.0) .100 (2.5)
19	1.316 (33.4) 1.306 (33.2)	1.828 (46.4) 1.796 (45.6)	1.3750-18	1.0625-18	1.938 (49.2)	1.335 (33.9) 1.326 (33.7)	1.394 (35.4) 1.385 (35.2)	.151 (3.8) .130 (3.3)
21	1.441 (36.6) 1.431 (36.3)	1.954 (49.6) 1.922 (48.8)	1.5000-18	1.1875-18	2.062 (52.4)	1.460 (37.1) 1.451 (36.9)	1.519 (38.6) 1.510 (38.4)	.151 (3.8) .130 (3.3)
23	1.566 (39.8) 1.556 (39.5)	2.078 (52.8) 2.046 (52.0)	1.6250-18	1.3125-18	2.188 (55.6)	1.585 (40.3) 1.578 (40.1)	1.644 (41.8) 1.635 (41.5)	.151 (3.8) .130 (3.3)
25	1.691 (43.0) 1.681 (42.7)	2.204 (56.0) 2.172 (55.2)	1.7500-18	1.4375-18	2.312 (58.7)	1.710 (43.4) 1.701 (43.2)	1.769 (44.9) 1.760 (44.7)	.151 (3.8) .130 (3.3)

240-381A
MIL-DTL-38999 Series I Filter Connector
Connector Adapter





***A** - Connector Adapter*

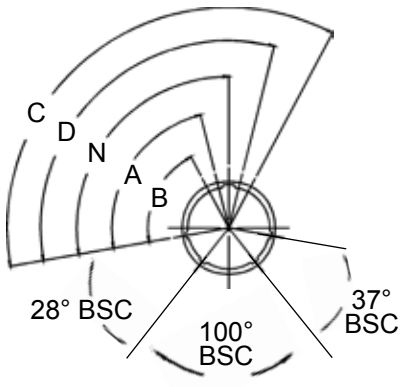
* Please consult factory for Pin/Pin and/or Socket/Socket contact arrangements.

TABLE I: CONNECTOR CLASS			
SYM	CLASS	MATERIAL	FINISH DESCRIPTION
M	Environmental	Aluminum	Electroless Nickel
MT	Environmental	Aluminum	Ni-PTFE *1000 Hour Grey™* Nickel Fluorocarbon Polymer)
NF	Environmental	Aluminum	Cadmium O.D. Over Electroless Nickel
P	Environmental	Stainless Steel	Electro-Deposited Nickel
ZN	Environmental	Aluminum	Zinc-Nickel Over Electroless Nickel

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

* Reduced DWV – Please consult factory.

SHELL DIAMETER		
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)



MASTER KEY POSITION				
NORMAL	A°	B°	C°	D°
100°	79°	66°	134°	121°

Glenair MIL-DTL-38999 Series II Type Low-Profile Filter Connector with Bayonet Coupling

Master How to Order • Part Number Breakdown

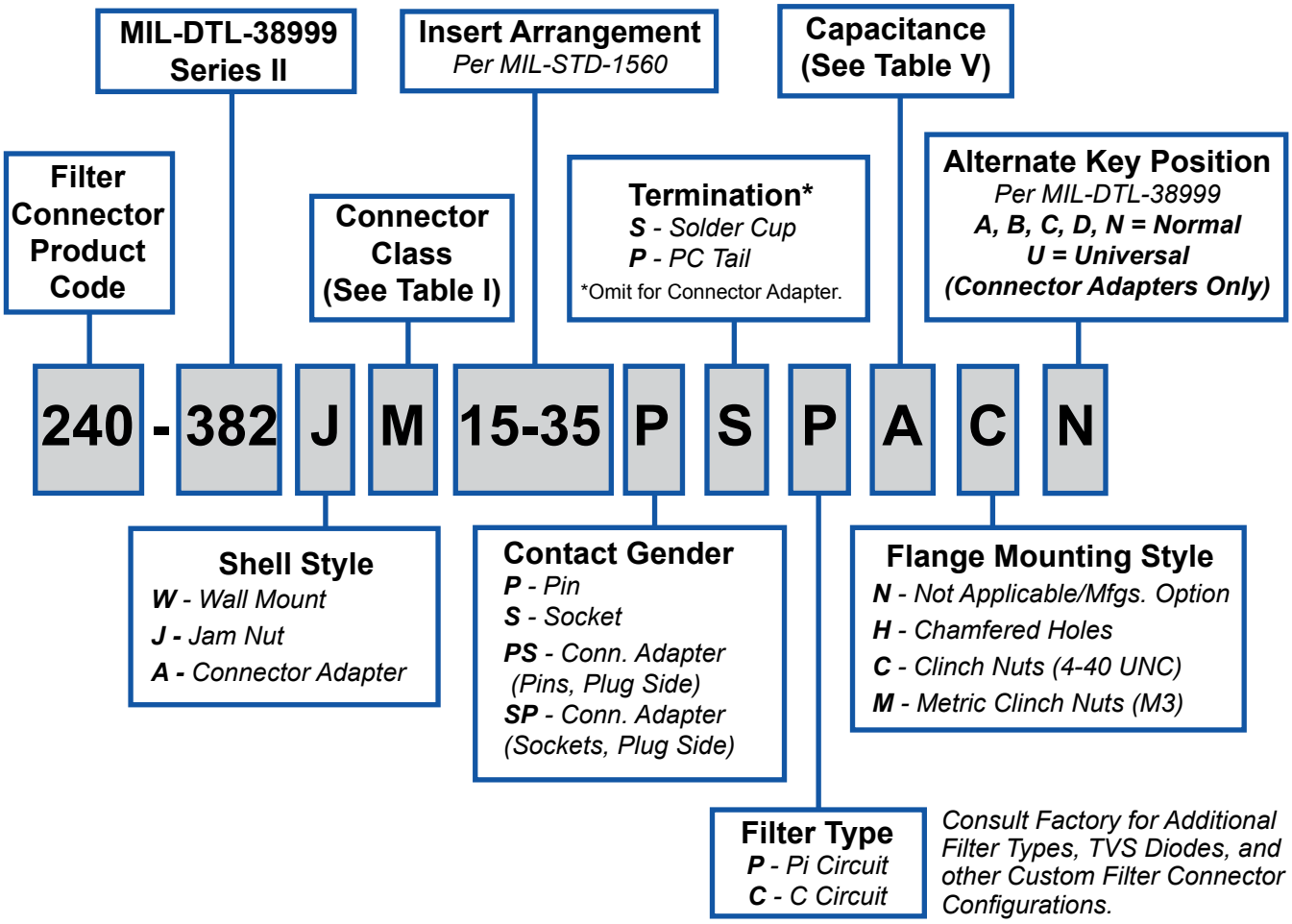


TABLE I: CONNECTOR CLASS

SYM	CLASS	MATERIAL	FINISH DESCRIPTION
M	Environmental	Aluminum	Electroless Nickel
MT	Environmental	Aluminum	Ni-PTFE *1000 Hour Grey™* Nickel Fluorocarbon Polymer
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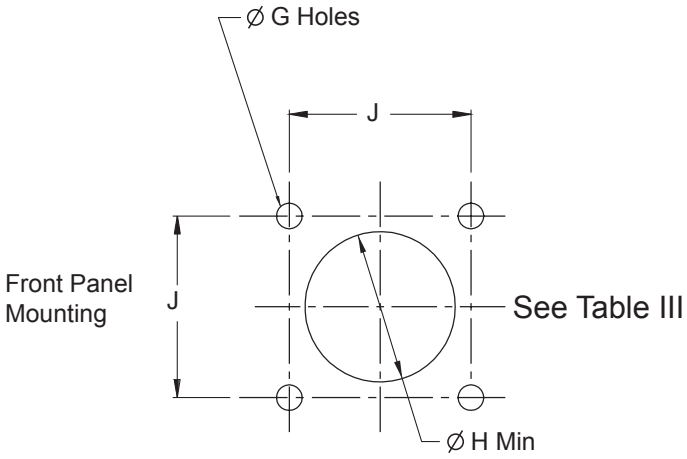
P	Environmental	Stainless Steel	Electro-Deposited Nickel
ZN	Environmental	Aluminum	Zinc-Nickel Over Electroless Nickel
H2	Hermetic	Stainless Steel	Electroless Nickel

TABLE II: CAPACITOR ARRAY CODE CAPACITANCE RANGE

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

* Reduced DWV – Please consult factory.

Glenair MIL-DTL-38999 Series II Type Low-Profile Filter Connector with Bayonet Coupling
Reference Information



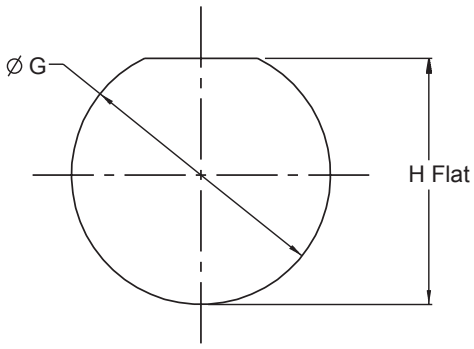


TABLE III: SQUARE FLANGE PANEL CUT-OUTS

Shell Size	Ø G Holes	Ø H Min	Ø J BSC
8	.133 (3.4) .123 (3.1)	.570 (14.5)	.594 (15.1)
10	.133 (3.4) .123 (3.1)	.690 (17.5)	.719 (18.3)
12	.133 (3.4) .123 (3.1)	.820 (20.8)	.812 (20.6)
14	.133 (3.4) .123 (3.1)	.940 (23.9)	.906 (23.0)
16	.133 (3.4) .123 (3.1)	1.070 (27.2)	.969 (24.6)
18	.133 (3.4) .123 (3.1)	1.190 (30.2)	1.062 (27.0)
20	.133 (3.4) .123 (3.1)	1.320 (33.5)	1.156 (29.4)
22	.159 (4.0) .149 (3.8)	1.440 (36.6)	1.250 (31.8)
24	.159 (4.0) .149 (3.8)	1.570 (39.9)	1.375 (34.9)

PANEL IV: JAM-NUT PANEL CUT-OUTS

SHELL SIZE	Ø G	H Flat
08	.894 (22.7) .884 (22.5)	.833 (21.2) .823 (20.9)
10	1.020 (25.9) 1.010 (25.7)	.957 (24.3) .947 (24.1)
12	1.144 (29.1) 1.134 (28.8)	1.081 (27.5) 1.071 (27.2)
14	1.269 (32.2) 1.259 (32.0)	1.206 (30.6) 1.196 (30.4)
16	1.394 (35.4) 1.384 (35.2)	1.336 (33.9) 1.326 (33.7)
18	1.520 (38.6) 1.510 (38.4)	1.456 (37.0) 1.446 (36.7)
20	1.645 (41.8) 1.635 (41.5)	1.581 (40.2) 1.571 (39.9)
22	1.750 (44.5) 1.740 (44.2)	1.706 (43.3) 1.696 (43.1)
24	1.895 (48.1) 1.885 (47.9)	1.831 (46.5) 1.821 (46.3)

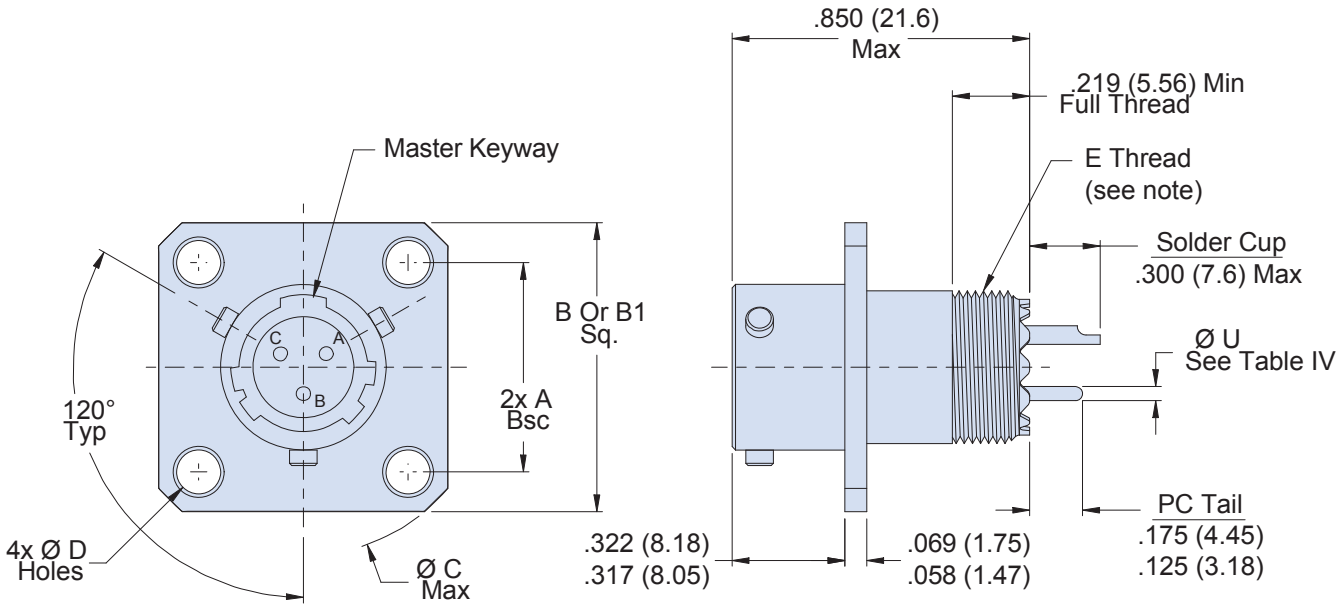
APPLICATION NOTES

1. Materials/Finishes: Shells, Barrel, Coupling Nut, Jam Nut - See Table I
   Insulators - high grade rigid dielectric/N.A.
   Seals - Flourosilicone
   PC Tail & Solder Cup contacts: 50µ" Gold over 50µ" Nickel
2. Assembly to be identified with Glenair's name, part number, and date code - space permitting.
3. Insert Arrangement in accordance with MIL-STD-1560. (Arrangement shown for reference only)
4. EMI Circular Filter Receptacle connector designed to meet requirements of MIL-STD-2120 and MIL-DTL-38999, Series II.
5. All contacts to have identical filter value. Other filter arrangements available, contact factory.
6. Electrical Ratings: DWV- 500 VDC; Standard Operating Voltage 200 Volts DC; Current Rating 5 Amps (size 22);
7. Insulation Resistance: 5000 MegOhms Min. at 200 VDC.
8. Operating Temperature -55°C to +125°C (Env Class Connectors)
9. Other filter styles (C-L, L-C, Unbalanced PI, Multi-Stage, Multi-Value) are available, please consult the factory.
10. Metric Dimensions (mm) are indicated in parentheses.

240-382W
MIL-DTL-38999 Series II Type Filter Connector
Wall Mount Receptacle

240	-	382	W	M	14-35	P	S	P	A	C	N
Filter Connector Product Code		MIL-DTL-38999 Series II			Insert Arrangement *IAW MIL-STD-1560*	Contact Gender *P - Pin* *S - Socket*	Filter Type *P - Pi Circuit* *C - C Circuit*		Capacitance *(See Table II)*		Alternate Key Position Per MIL-DTL-38999 *A, B, C, D, N = Normal*
			Shell Style *W - Wall Mount*	Connector Class *(See Table I)*			Termination *S - Solder Cup* *P - PC Tail*			Flange Mounting Style *H - Chamfered Holes* *C - Clinch Nuts (4-40 UNC)* *M - Metric Clinch Nuts (M3)*	

***W** - Wall Mount*



Note: 'E' ACCESSORY THREADS FOR SHELL SIZE 8 THRU 16 ARE ONE SIZE LARGER THAN MIL-DTL-38999 SERIES II TO ACCOMODATE FILTERS.

240-382W
MIL-DTL-38999 Series II Type Filter Connector
Wall Mount Receptacle

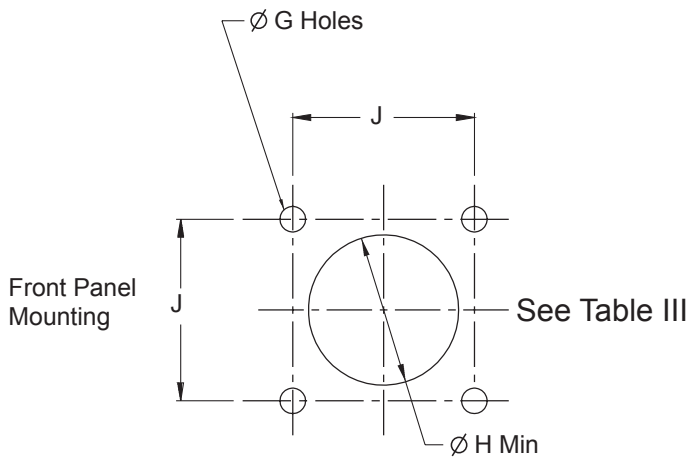


TABLE I: CONNECTOR CLASS

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M	Environmental	Aluminum	Electroless Nickel
MT	Environmental	Aluminum	Ni-PTFE *1000 Hour Grey™* Nickel Fluorocarbon Polymer
NF	Environmental	Aluminum	Cadmium O.D. Over Electroless Nickel
P	Environmental	Stainless Steel	Electro-Deposited Nickel
ZN	Environmental	Aluminum	Zinc-Nickel Over Electroless Nickel

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E	3,300 - 5,000	1,650 - 2,500
F	800 - 1,300	400 - 650
G	400 - 600	200 - 300

* Reduced DWV – Please consult factory.

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

TABLE III: SQUARE FLANGE PANEL CUT-OUTS

Shell Size	Ø G Holes	Ø H Min	J BSC
8	.133 (3.4) .123 (3.1)	.625 (15.9)	.594 (15.1)
10	.133 (3.4) .123 (3.1)	.750 (19.1)	.719 (18.3)
12	.133 (3.4) .123 (3.1)	.906 (23.0)	.812 (20.6)
14	.133 (3.4) .123 (3.1)	1.016 (25.8)	.906 (23.0)
16	.133 (3.4) .123 (3.1)	1.141 (29.0)	.969 (24.6)
18	.133 (3.4) .123 (3.1)	1.141 (29.0)	1.062 (27.0)
20	.133 (3.4) .123 (3.1)	1.266 (32.2)	1.156 (29.4)
22	.159 (4.0) .149 (3.8)	1.375 (34.9)	1.250 (31.8)
24	.159 (4.0) .149 (3.8)	1.484 (37.7)	1.375 (34.9)

TABLE IV: PC TAIL DIA

Contact Size	Ø U
22D	.021 (0.53) .018 (0.46)
20	.031 (0.79) .029 (0.74)
16	.042 (1.07) .038 (0.97)
12	.096 (2.44) .092 (2.34)

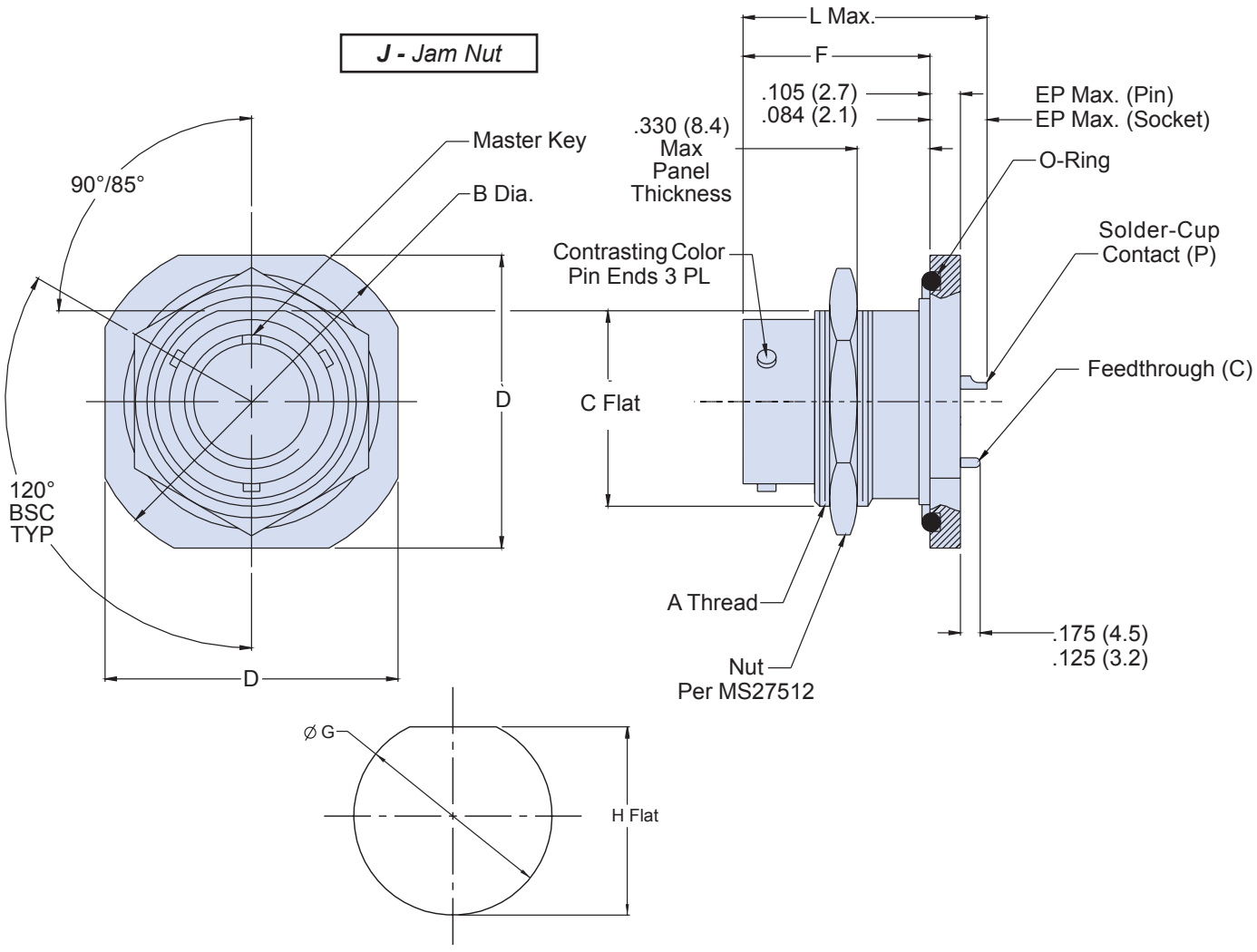
TABLE III: DIMENSIONS

Shell Size	A Bsc	Thru Hole Flange		Clinch Nut Flange	Ø C Max	E Thread UNEF-2A
		B Sq. Max	Ø D +.010 (.25) -.005 (.13)	B1 Sq. ±.020 (.51)		
8	.594 (15.1)	.828 (21.0)	.120 (3.0)	.895 (22.7)	1.250 (31.8)	.5625-24
10	.719 (18.3)	.954 (24.2)	.120 (3.0)	1.019 (25.9)	1.400 (35.6)	.6875-24
12	.812 (20.6)	1.047 (26.6)	.120 (3.0)	1.112 (28.2)	1.500 (38.1)	.8125-20
14	.906 (23.0)	1.141 (29.0)	.120 (3.0)	1.206 (30.6)	1.650 (41.9)	.9375-20
16	.969 (24.6)	1.234 (31.3)	.120 (3.0)	1.269 (32.2)	1.700 (43.2)	1.0625-18
18	1.062 (27.0)	1.328 (33.7)	.120 (3.0)	1.362 (34.6)	1.800 (45.7)	1.0625-18
20	1.156 (29.4)	1.453 (39.9)	.120 (3.0)	1.456 (37.0)	2.000 (50.8)	1.1875-18
22	1.250 (31.8)	1.578 (40.1)	.120 (3.0)	1.562 (39.7)	2.150 (54.6)	1.3125-18
24	1.375 (34.9)	1.703 (43.3)	.147 (3.7)	1.719 (43.7)	2.280 (57.9)	1.4375-18

240-382J (Hermetic Version Shown)
MIL-DTL-38999 Series II Filter Connector
Jam Nut Receptacle

240	-	382	J	H2	14-35	P	S	P	A	N	N

- **240** — Filter Connector Product Code
- **382** — MIL-DTL-38999 Series II
- **J** — Shell Style: *J - Jam Nut*
- **H2** — Connector Class: *(See Table I)*
- **14-35** — Insert Arrangement: *IAW MIL-STD-1560*
- **P** — Contact Gender: *P - Pin*, *S - Socket*
- **S** — Termination: *S - Solder Cup*, *P - PC Tail*
- **P** — Filter Type: *P - Pi Circuit*, *C - C Circuit*
- **A** — Capacitance: *(See Table II)*
- **N** — Alternate Key Position: Per MIL-DTL-38999, *A, B, C, D, N = Normal*
- **N** — Flange Mounting Style: *N - Not Applicable*



240-382J (Hermetic Version Shown)
MIL-DTL-38999 Series II Filter Connector
Jam Nut Receptacle

Glenair®

TABLE I: CONNECTOR CLASS			
SYM	CLASS	MATERIAL	FINISH DESCRIPTION
M	Environmental	Aluminum	Electroless Nickel
MT	Environmental	Aluminum	Ni-PTFE *1000 Hour Grey™* Nickel Fluorocarbon Polymer
NF	Environmental	Aluminum	Cadmium O.D. Over Electroless Nickel
P	Environmental	Stainless Steel	Electro-Deposited Nickel
ZN	Environmental	Aluminum	Zinc-Nickel Over Electroless Nickel
H2	Hermetic	Stainless Steel	Electroless Nickel

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

* Reduced DWV – Please consult factory.

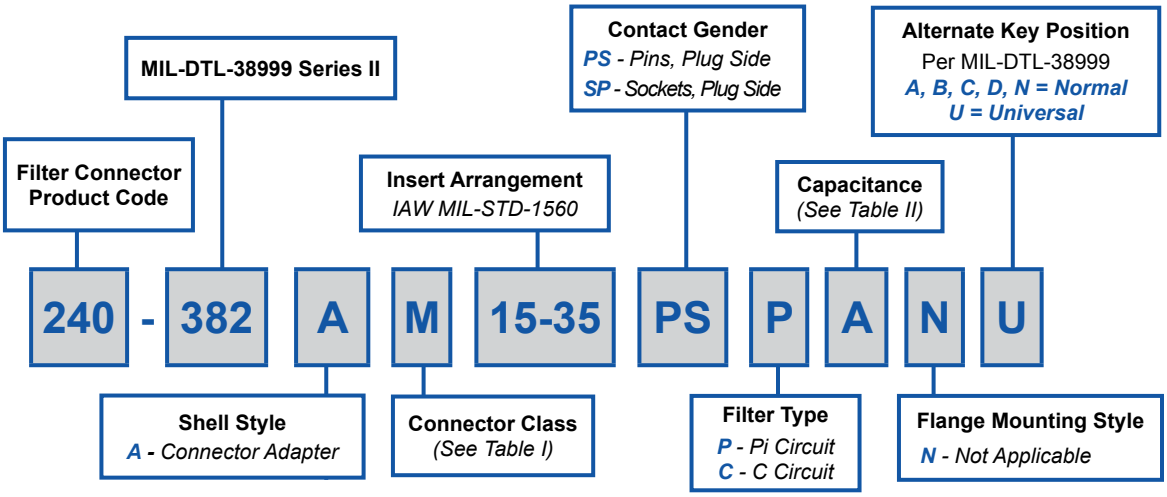
Consult Factory for Additional Filter Types, TVS Diodes, and other Custom Filter Connector Configurations.

PANEL IV: JAM-NUT PANEL CUT-OUTS		
SHELL SIZE	∅ G	H Flat
08	.894 (22.7) .884 (22.5)	.833 (21.2) .823 (20.9)
10	1.020 (25.9) 1.010 (25.7)	.957 (24.3) .947 (24.1)
12	1.144 (29.1) 1.134 (28.8)	1.081 (27.5) 1.071 (27.2)
14	1.269 (32.2) 1.259 (32.0)	1.206 (30.6) 1.196 (30.4)
16	1.394 (35.4) 1.384 (35.2)	1.336 (33.9) 1.326 (33.7)
18	1.520 (38.6) 1.510 (38.4)	1.456 (37.0) 1.446 (36.7)
20	1.645 (41.8) 1.635 (41.5)	1.581 (40.2) 1.571 (39.9)
22	1.750 (44.5) 1.740 (44.2)	1.706 (43.3) 1.696 (43.1)
24	1.895 (48.1) 1.885 (47.9)	1.831 (46.5) 1.821 (46.3)

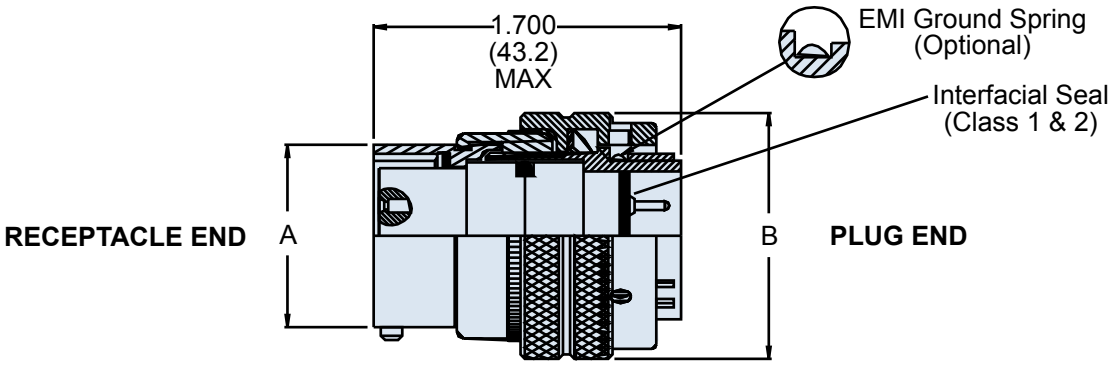
TABLE III										
SHELL SIZE	A THREAD .1P- .03L-TS	B DIA.	C FLAT	D A/F	EP MAX.	ES MAX.	F	G DIA.	H	L MAX.
08	.875-20 UNEF	1.391 (35.3) 1.359 (34.5)	.818 (20.8) .811 (20.6)	1.266 (32.2) 1.234 (31.3)	.281 (7.1)	.359 (9.1)	.743 (18.9) .733 (18.6)	.894 (22.7) .884 (22.5)	.833 (21.2) .823 (20.9)	1.024 (26.0)
10	.1.000-20 UNEF	1.516 (38.5) 1.484 (37.7)	.942 (23.9) .935 (23.7)	1.391 (35.3) 1.359 (34.5)	.281 (7.1)	.359 (9.1)	.743 (18.9) .733 (18.6)	1.020 (25.9) 1.010 (25.7)	.957 (24.3) .947 (24.1)	1.024 (26.0)
12	1.125-18 UNEF	1.641 (41.7) 1.609 (40.9)	1.066 (27.1) 1.059 (26.9)	1.516 (38.5) 1.484 (37.7)	.281 (7.1)	.359 (9.1)	.743 (18.9) .733 (18.6)	1.144 (29.1) 1.134 (28.8)	1.081 (27.5) 1.071 (27.2)	1.024 (26.0)
14	1.250-18 UNEF	1.766 (44.9) 1.734 (44.0)	1.191 (30.3) 1.184 (30.1)	1.641 (41.7) 1.609 (40.9)	.281 (7.1)	.359 (9.1)	.743 (18.9) .733 (18.6)	1.269 (32.2) 1.259 (32.0)	1.206 (30.6) 1.196 (30.4)	1.024 (26.0)
16	1.375-18 UNEF	1.954 (49.6) 1.922 (48.8)	1.321 (33.6) 1.314 (33.4)	1.797 (45.6) 1.765 (44.8)	.281 (7.1)	.359 (9.1)	.743 (18.9) .733 (18.6)	1.394 (35.4) 1.384 (35.2)	1.336 (33.9) 1.326 (33.7)	1.024 (26.0)
18	1.500-18 UNEF	2.032 (51.6) 2.000 (50.8)	1.441 (36.6) 1.434 (36.4)	1.906 (48.4) 1.874 (47.6)	.281 (7.1)	.359 (9.1)	.743 (18.9) .733 (18.6)	1.520 (38.6) 1.510 (38.4)	1.456 (37.0) 1.446 (36.7)	1.024 (26.0)
20	1.625-18 UNEF	2.157 (54.8) 2.125 (54.0)	1.566 (39.8) 1.559 (39.6)	2.032 (51.6) 2.000 (50.8)	.250 (6.4)	.344 (8.7)	.769 (19.5) .759 (19.3)	1.645 (41.8) 1.635 (41.5)	1.581 (40.2) 1.571 (39.9)	1.019 (25.9)
22	1.750-18 UNS	2.281 (57.9) 2.249 (57.1)	1.691 (43.0) 1.684 (42.8)	2.156 (54.8) 2.124 (53.9)	.250 (6.4)	.344 (8.7)	.769 (19.5) .759 (19.3)	1.750 (44.5) 1.740 (44.2)	1.706 (43.3) 1.696 (43.1)	1.019 (25.9)
24	1.875-16 UN	2.406 (61.1) 2.374 (60.3)	1.816 (46.1) 1.809 (45.9)	2.281 (57.9) 2.249 (57.1)	.250 (6.4)	.344 (8.7)	.769 (19.5) .759 (19.3)	1.895 (48.1) 1.885 (47.9)	1.831 (46.5) 1.821 (46.3)	1.019 (25.9)

*Some dimensions do not apply. Consult factory

240-382A
MIL-DTL-38999 Series II Filter Connector
Connector Adapter



A - *Connector Adapter*



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

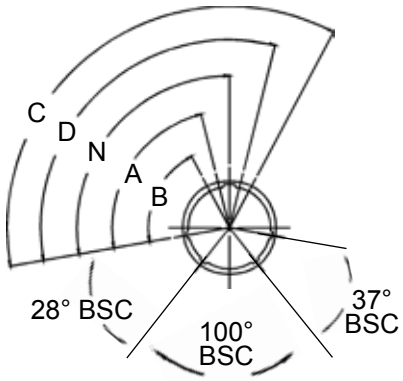


TABLE I: CONNECTOR CLASS

SYM	CLASS	MATERIAL	FINISH DESCRIPTION
M	Environmental	Aluminum	Electroless Nickel
MT	Environmental	Aluminum	Ni-PTFE *1000 Hour Grey™* Nickel Fluorocarbon Polymer
NF	Environmental	Aluminum	Cadmium O.D. Over Electroless Nickel
P	Environmental	Stainless Steel	Electro-Deposited Nickel
ZN	Environmental	Aluminum	Zinc-Nickel Over Electroless Nickel

SHELL DIAMETER

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)

TABLE II: CAPACITOR ARRAY CODE CAPACITANCE RANGE

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

* Reduced DWV – Please consult factory.

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

MASTER KEY POSITION

NORMAL	A°	B°	C°	D°
100°	79°	66°	134°	121°

Glenair MIL-DTL-38999 Series III Type Filter Connector with Threaded Coupling

Master How to Order • Part Number Breakdown

MIL-DTL-38999 Series III

Insert Arrangement
Per MIL-STD-1560

Capacitance (See Table II)

Termination*
***S** - Solder Cup*
***P** - PC Tail*
C** - Crimp
*Omit for Connector Adapter.
**Crimp Option applies to shell style R and S only.

Alternate Key Position
Per MIL-DTL-38999
A, B, C, D, E, N = Normal
U = Universal
(Connector Adapters Only)

Filter Connector Product Code

Connector Class (See Table I)

240	-	383	J	P	15-35	P	S	P	A	C	N

Shell Style
***P** - Plug*
***W** - Wall Mount*
***J** - Jam Nut*
***S** - Crimp Removable Jam Nut*
***D** - Dual Flange* Wall Mount*
***E** - Dual Flange* Jam Nut*
***R** - Crimp Removable Wall Mount*
***A** - Connector Adapter*
* Dual Flange Available Only with PC Tail Terminations

Contact Gender
***P** - Pin*
***S** - Socket*
***PS** - Conn. Adapter (Pins, Plug Side)*
***SP** - Conn. Adapter (Sockets, Plug Side)*

Filter Type
***P** - Pi Circuit*
***C** - C Circuit*

Flange Mounting Style
N** - Not Applicable/Mfgs. Option
***S** - Slotted Holes, Chamfered*
***H** - Round Holes, Chamfered*
***C** - Clinch Nuts (4-40 UNC)**
***M** - Metric Clinch Nuts (M3)**
*Not Available for Hermetics and Composites
**Not Available for W and R Shell Types

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

TABLE II: CAPACITOR ARRAY CODE CAPACITANCE RANGE

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

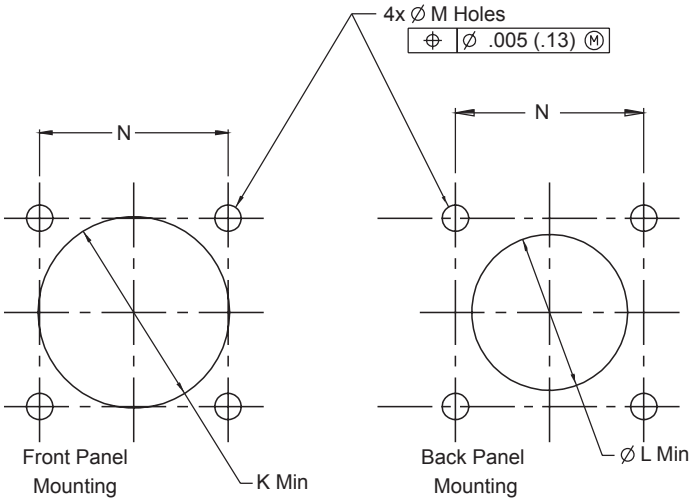
* Reduced DWV – Please consult factory.

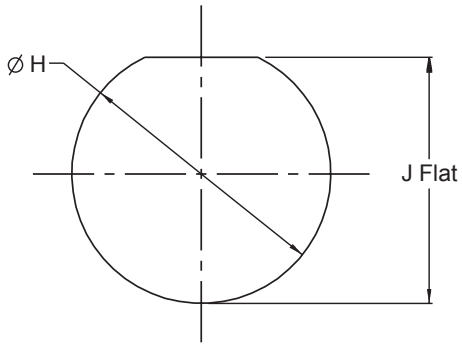
TABLE I: CONNECTOR CLASS

SYM	CLASS	MATERIAL	FINISH DESCRIPTION
M	Environmental	Aluminum	Electroless Nickel
MT	Environmental	Aluminum	Nickel Fluorocarbon Polymer (Ni-PTFE)
NF	Environmental	Aluminum	Cad. O.D. Over Electroless Nickel
P	Environmental	Stainless	Electro-Deposited Nickel
XM	Environmental	Composite	Electroless Nickel
XMT	Environmental	Composite	Nickel Fluorocarbon Polymer (Ni-PTFE)
XW	Environmental	Composite	Cad. O.D. Over Electroless Nickel
ZN	Environmental	Aluminum	Zinc-Nickel Over Electroless Nickel
H2*	Hermetic	Stainless	Electroless Nickel

* Some dimensions do not apply, see sales drawing 240-383JH2

Glenair MIL-DTL-38999 Series III Type Filter Connector with Threaded Coupling
Reference Information





MIL-DTL-38999 Series III Square Flange Panel Cutouts

Shell Size Code	Shell Size	⌀ K Min	⌀ L Min	M Holes	N BSC
A	09	.656 (16.7)	.516 (13.1)	.133 (3.4) .123 (3.1)	.719 (18.3)
B	11	.796 (20.2)	.625 (15.9)	.133 (3.4) .123 (3.1)	.812 (20.6)
C	13	.922 (23.4)	.750 (19.1)	.133 (3.4) .123 (3.1)	.906 (23.0)
D	15	1.047 (26.6)	.906 (23.0)	.133 (3.4) .123 (3.1)	.969 (24.6)
E	17	1.219 (31.0)	1.016 (25.8)	.133 (3.4) .123 (3.1)	1.062 (27.0)
F	19	1.297 (32.9)	1.141 (29.0)	.133 (3.4) .123 (3.1)	1.156 (29.4)
G	21	1.422 (36.1)	1.266 (32.2)	.133 (3.4) .123 (3.1)	1.250 (31.8)
H	23	1.547 (39.3)	1.375 (34.9)	.159 (4.0) .149 (3.8)	1.375 (34.9)
J	25	1.672 (42.5)	1.484 (37.7)	.155 (3.9) .145 (3.7)	1.500 (38.1)

MIL-DTL-38999 Series III Jam Nut Panel Cutout

SHELL SIZE CODE	SHELL SIZE	∅ H	J
A	09	.710 (18.0) .700 (17.8)	.670 (17.0) .660 (16.8)
B	11	.835 (21.2) .825 (21.0)	.771 (19.6) .761 (19.3)
C	13	1.020 (25.9) 1.010 (25.7)	.955 (24.3) .945 (24.0)
D	15	1.145 (29.1) 1.135 (28.8)	1.085 (27.6) 1.075 (27.3)
E	17	1.270 (32.3) 1.260 (32.0)	1.210 (30.7) 1.200 (30.5)
F	19	1.395 (35.4) 1.385 (35.2)	1.335 (33.9) 1.325 (33.7)
G	21	1.520 (38.6) 1.510 (38.4)	1.460 (37.1) 1.450 (36.8)
H	23	1.645 (41.8) 1.635 (41.5)	1.585 (40.3) 1.575 (40.0)
J	25	1.770 (45.0) 1.760 (44.7)	1.710 (43.4) 1.700 (43.2)

APPLICATION NOTES

1. Materials/Finishes: Shells, Barrel, Coupling Nut, Jam Nut - See Table I
   Insulators - high grade rigid dielectric/N.A.
   Seals - Flourosilicone
   PC Tail & Solder Cup contacts: 50µ" Gold over 50µ" Nickel
2. Assembly to be identified with Glenair's name, part number, and date code - space permitting.
3. Insert Arrangement in accordance with MIL-STD-1560. (Arrangement shown for reference only)
4. EMI Circular Filter Receptacle connector designed to meet requirements of MIL-STD-2120 and MIL-DTL-38999, Series III.
5. All contacts to have identical filter value. Other filter arrangements available, contact factory.
6. Electrical Ratings: DWV- 500 VDC; Standard Operating Voltage 200 Volts DC; Current Rating 5 Amps (size 22);
7. Insulation Resistance: 5000 MegOhms Min. at 200 VDC.
8. Operating Temperature -55°C to +125°C (Env Class Connectors)
9. Other filter styles (C-L, L-C, Unbalanced PI, Multi-Stage, Multi-Value) are available, please consult the factory.
10. Metric Dimensions (mm) are indicated in parentheses.

240-383P
MIL-DTL-38999 Series III Filter Connector
Plug

240	-	383	P	P	15-35	P	S	P	A	N	N
Filter Connector Product Code		MIL-DTL-38999 Series III	Shell Style *P - Plug*	Connector Class *(See Table I)*	Insert Arrangement *IAW MIL-STD-1560*	Contact Gender *P - Pin* *S - Socket*	Termination *S - Solder Cup*	Filter Type *P - Pi Circuit* *C - C Circuit*	Capacitance *(See Table II)*	Flange Mounting Style *N - Not Applicable*	Alternate Key Position Per MIL-DTL-38999 *A, B, C, D, E, N = Normal*

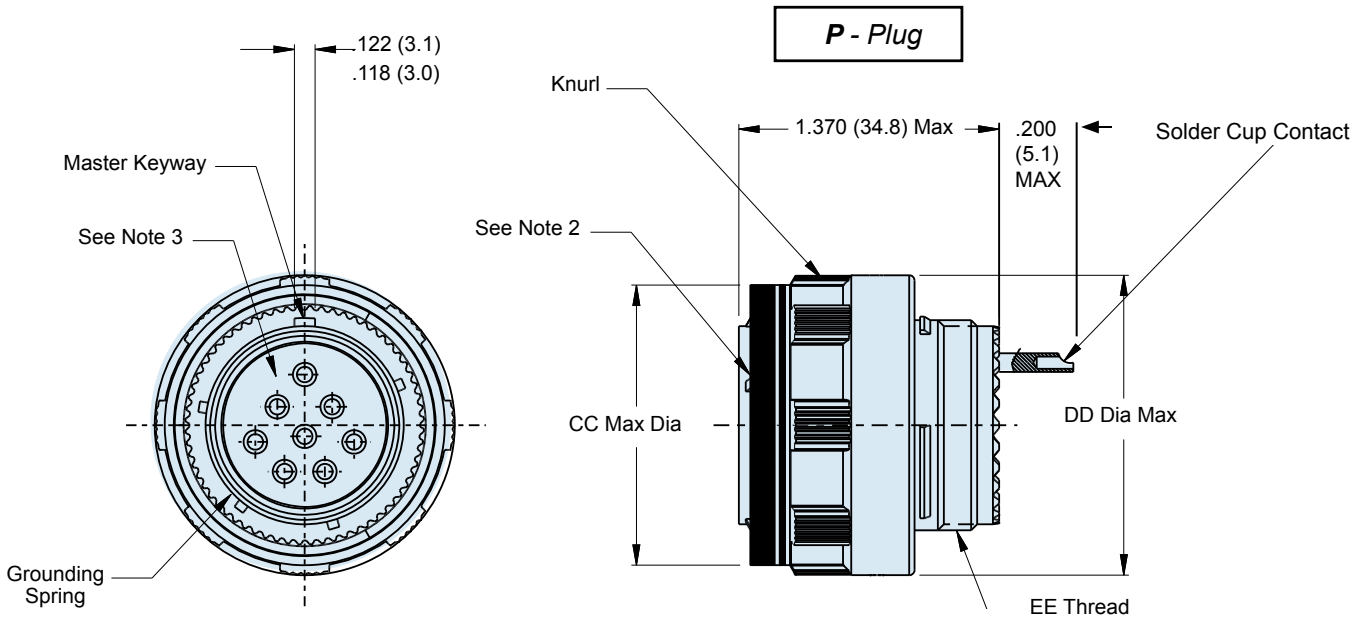


TABLE I: CONNECTOR CLASS			
SYM	CLASS	MATERIAL	FINISH DESCRIPTION
M	Environmental	Aluminum	Electroless Nickel
MT	Environmental	Aluminum	Nickel Fluorocarbon Polymer (Ni-PTFE)
NF	Environmental	Aluminum	Cad. O.D. Over Electroless Nickel
P	Environmental	Stainless	Electro-Deposited Nickel
XM	Environmental	Composite	Electroless Nickel
XMT	Environmental	Composite	Nickel Fluorocarbon Polymer (Ni-PTFE)
XW	Environmental	Composite	Cad. O.D. Over Electroless Nickel
ZN	Environmental	Aluminum	Zinc-Nickel Over Electroless Nickel
H2*	Hermetic	Stainless	Electroless Nickel

* Some dimensions do not apply, see sales drawing 240-383JH2

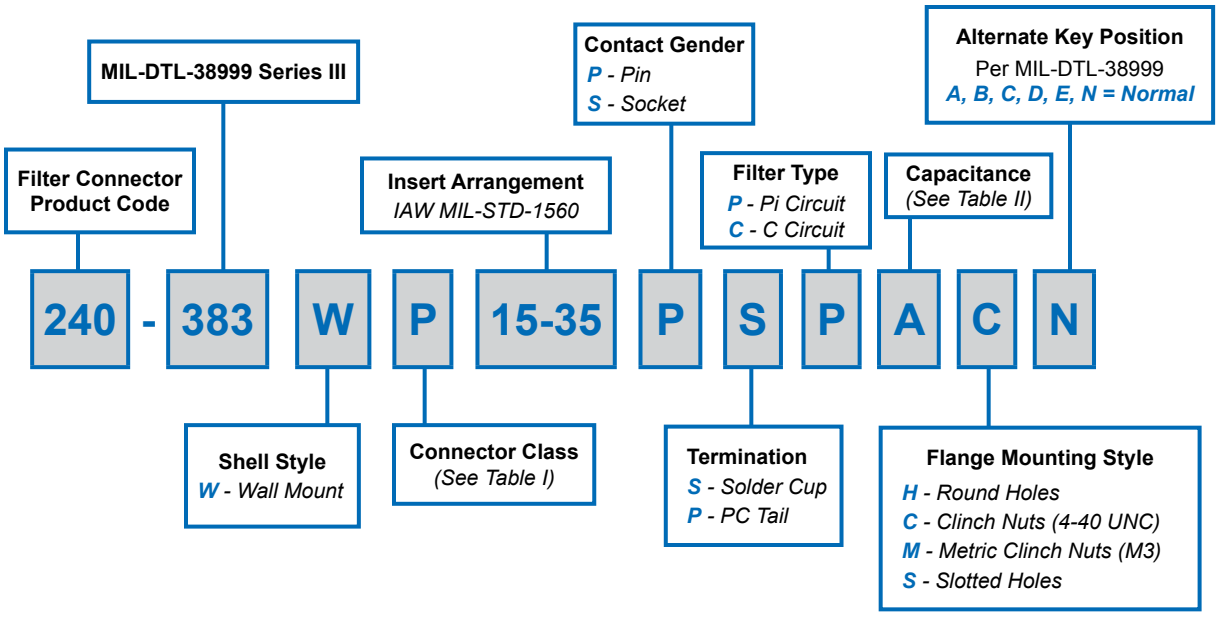
TABLE II: CAPACITOR ARRAY CODE CAPACITANCE RANGE		
CLASS	PI - CIRCUIT (pF)	C - CIRCUIT (pF)
X*	160,000 - 240,000	80,000 - 120,000
Y*	80,000 - 120,000	40,000 - 60,000
Z*	60,000 - 90,000	30,000 - 45,000
A	38,000 - 56,000	19,000 - 28,000
B	32,000 - 45,000	16,000 - 22,500
C	18,000 - 33,000	9,000 - 16,500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

* Reduced DWV – Please consult factory.

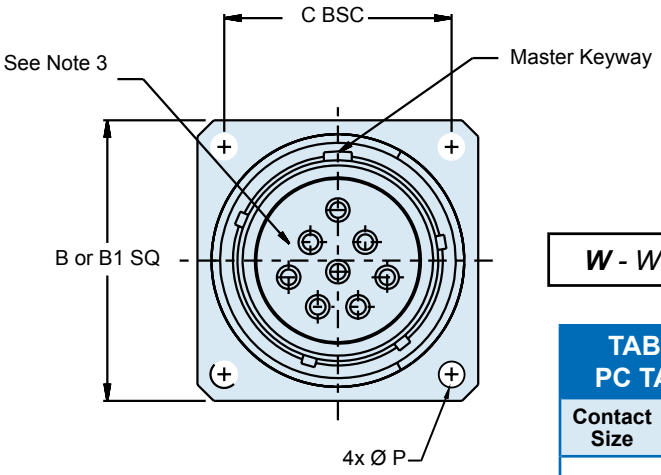
DIMENSIONS				
SHELL SIZE CODE	SHELL SIZE	CC Dia Max	DD Dia Max	EE THREAD
B	11	.929 (23.6)	.984 (25.0)	M15 X 1.0-6g 0.100R
C	13	1.110 (28.2	1.157 (29.4	M18 X 1.0-6g 0.100R
D	15	1.232 (31.3)	1.280 (32.5)	M22 X 1.0-6g 0.100R
E	17	1.358 (34.5)	1.406 (35.7)	M25 X 1.0-6g 0.100R
F	19	1.469 (37.3)	1.516 (38.5)	M28 X 1.0-6g 0.100R
G	21	1.594 (40.5)	1.642 (41.7	M31 X 1.0-6g 0.100R
H	23	1.720 (43.7)	1.768 (44.9)	M34 X 1.0-6g 0.100R
J	25	1.843 (46.8)	1.890 (48.0)	M37 X 1.0-6g 0.100R

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

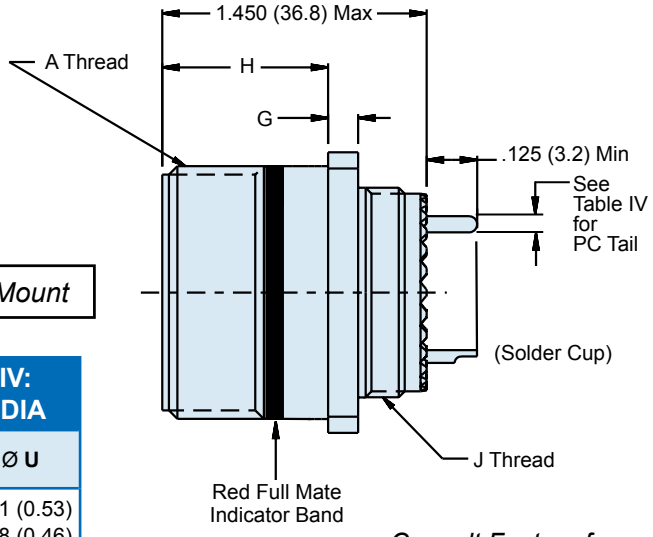
240-383W
MIL-DTL-38999 Series III Type Filter Connector
Wall Mount Receptacle



Clinch Nuts and Metric Clinch Nuts Not Available for Composites.
Helicoils and Threaded Inserts/Specials Available Upon Request.



***W** - Wall Mount*



Consult Factory for Alternative PC Tail Lengths

TABLE IV: PC TAIL DIA

Contact Size	Ø U
22D	.021 (0.53) .018 (0.46)
20	.031 (0.8) .029 (0.7)
16	.042 (1.1) .038 (1.0)

240-383W
MIL-DTL-38999 Series III Filter Connector
Wall Mount Receptacle

Glenair®

B

TABLE I: CONNECTOR CLASS

SYM	CLASS	MATERIAL	FINISH DESCRIPTION
M	Environmental	Aluminum	Electroless Nickel
MT	Environmental	Aluminum	Nickel Fluorocarbon Polymer (Ni-PTFE)
NF	Environmental	Aluminum	Cad. O.D. Over Electroless Nickel
P	Environmental	Stainless	Electro-Deposited Nickel
XM	Environmental	Composite	Electroless Nickel
XMT	Environmental	Composite	Nickel Fluorocarbon Polymer (Ni-PTFE)
XW	Environmental	Composite	Cad. O.D. Over Electroless Nickel
ZN	Environmental	Aluminum	Zinc-Nickel Over Electroless Nickel
H2*	Hermetic	Stainless	Electroless Nickel

* Some dimensions do not apply, see sales drawing 240-383WH2

TABLE II: CAPACITOR ARRAY CODE CAPACITANCE RANGE

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

* Reduced DWV – Please consult factory.

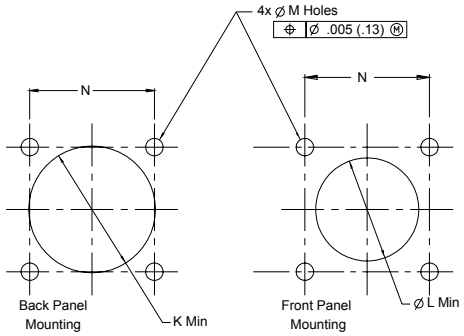


TABLE III: MIL-DTL-38999 Series III Square Flange Panel Cutouts

Shell Size Code	Shell Size	⌀ K Min Back Panel	⌀ L Min Front Panel	M Holes	N BSC	P Ø ± .010
A	09	.656 (16.7)	.516 (13.1)	.133 (3.4) .123 (3.1)	.719 (18.3)	.128 (3.3)
B	11	.796 (20.2)	.625 (15.9)	.133 (3.4) .123 (3.1)	.812 (20.6)	
C	13	.922 (23.4)	.750 (19.1)	.133 (3.4) .123 (3.1)	.906 (23.0)	
D	15	1.047 (26.6)	.906 (23.0)	.133 (3.4) .123 (3.1)	.969 (24.6)	
E	17	1.219 (31.0)	1.016 (25.8)	.133 (3.4) .123 (3.1)	1.062 (27.0)	
F	19	1.297 (32.9)	1.141 (29.0)	.133 (3.4) .123 (3.1)	1.156 (29.4)	
G	21	1.422 (36.1)	1.266 (32.2)	.133 (3.4) .123 (3.1)	1.250 (31.8)	
H	23	1.547 (39.3)	1.375 (34.9)	.159 (4.0) .149 (3.8)	1.375 (34.9)	.156 (4.0)
J	25	1.672 (42.5)	1.484 (37.7)	.155 (3.9) .145 (3.7)	1.500 (38.1)	

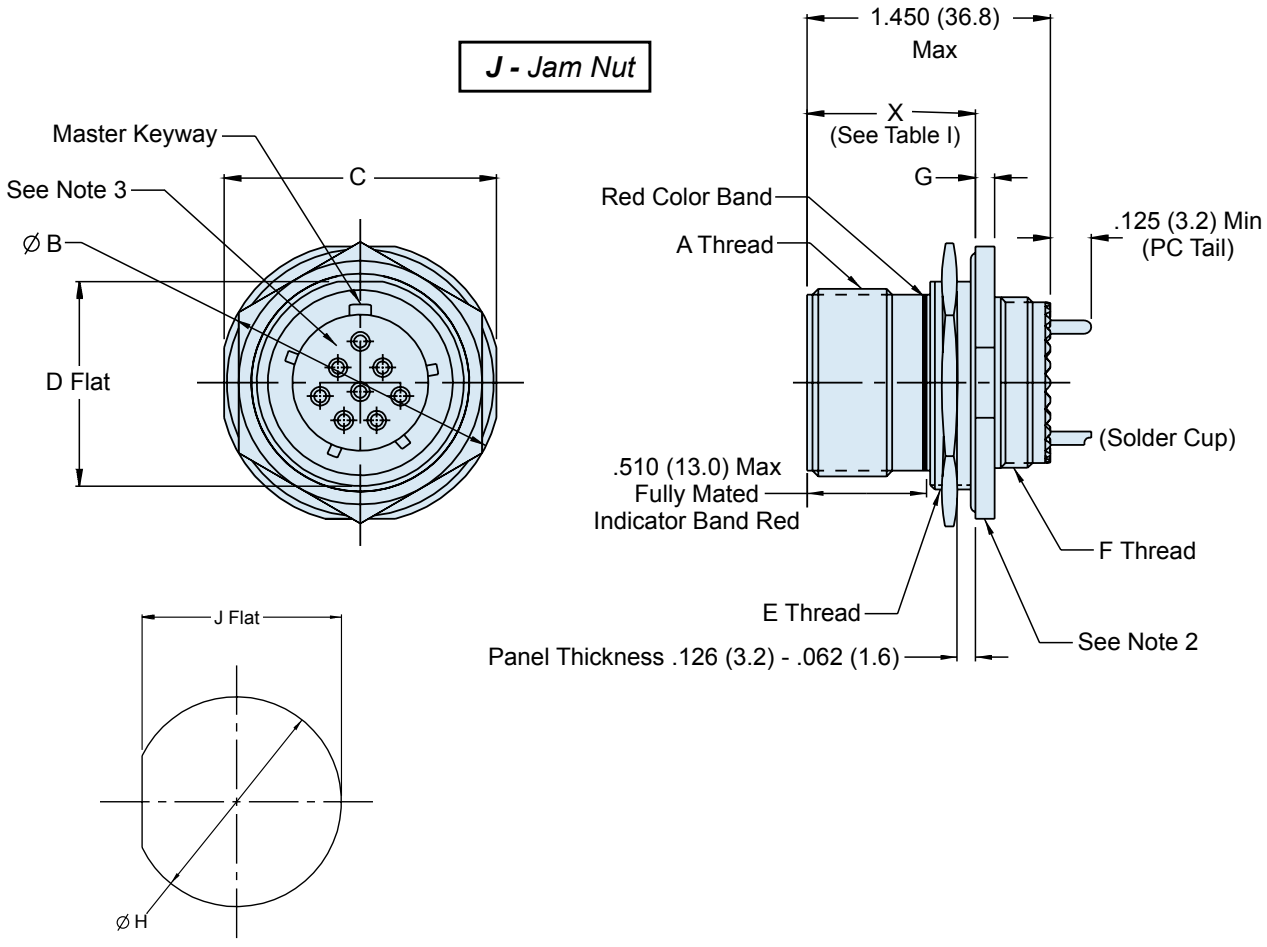
TABLE V: WALL MOUNT

SHELL SIZE CODE	SHELL SIZE	A THREAD	B SQ	CLINCH NUT FLANGE B1 SQ	C BSC	D BSC	E	F	G	H	J THREAD
A	09	.6250- .1P- .3L-TS-2A	0.949 (24.1) 0.925 (23.5)	1.019 (25.9)	.719 (18.3)	.594 (15.1)	.136 (3.5) .120 (3.0)	.224 (5.7) .208 (5.3)	.144 (3.7) .083 (2.1)	.820 (20.8) .771 (19.6)	M12 X 1.0-6g 0.100R
B	11	.7500- .1P- .3L-TS-2A	1.043 (26.5) 1.019 (25.9)	1.112 (28.2)	.812 (20.6)	.719 (18.3)	.136 (3.5) .120 (3.0)	.202 (5.1) .186 (4.7)		.820 (20.8) .771 (19.6)	M15 X 1.0-6g 0.100R
C	13	.8750- .1P- .3L-TS-2A	1.138 (28.9) 1.114 (28.3)	1.206 (30.6)	.906 (23.0)	.812 (20.6)	.136 (3.5) .120 (3.0)	.202 (5.1) .186 (4.7)		.820 (20.8) .771 (19.6)	M18 X 1.0-6g 0.100R
D	15	1.000- .1P- .3L-TS-2A	1.232 (31.3) 1.208 (30.7)	1.269 (32.2)	.969 (24.6)	.906 (23.0)	.136 (3.5) .120 (3.0)	.181 (4.6) .165 (4.2)		.820 (20.8) .771 (19.6)	M22 X 1.0-6g 0.100R
E	17	1.1875- .1P- .3L-TS-2A	1.323 (33.6) 1.299 (33.0)	1.362 (34.6)	1.062 (27.0)	.969 (24.6)	.136 (3.5) .120 (3.0)	.202 (5.1) .186 (4.7)		.820 (20.8) .771 (19.6)	M25 X 1.0-6g 0.100R
F	19	1.2500- .1P- .3L-TS-2A	1.449 (36.8) 1.425 (36.2)	1.456 (37.0)	1.156 (29.4)	1.062 (27.0)	.136 (3.5) .120 (3.0)	.202 (5.1) .186 (4.7)		.820 (20.8) .771 (19.6)	M28 X 1.0-6g 0.100R
G	21	1.3750- .1P- .3L-TS-2A	1.575 (40.0) 1.551 (39.4)	1.562 (39.7)	1.250 (31.8)	1.156 (29.4)	.136 (3.5) .120 (3.0)	.202 (5.1) .186 (4.7)	.171 (4.3) .083 (2.1)	.790 (20.1) .741 (18.8)	M31 X 1.0-6g 0.100R
H	23	1.5000- .1P- .3L-TS-2A	1.701 (43.2) 1.677 (42.6)	1.719 (43.7)	1.375 (34.9)	1.250 (31.8)	.162 (4.1) .146 (3.7)	.250 (6.4) .234 (5.9)		.790 (20.1) .741 (18.8)	M34 X 1.0-6g 0.100R
J	25	1.6250- .1P- .3L-TS-2A	1.823 (46.3) 1.799 (45.7)	1.844 (46.8)	1.500 (38.1)	1.375 (34.9)	.162 (4.1) .146 (3.7)	.250 (6.4) .234 (5.9)		.790 (20.1) .741 (18.8)	M37 X 1.0-6g 0.100R

240-383J
MIL-DTL-38999 Series III Filter Connector
Jam Nut Receptacle

240	-	383	J	P	15-35	P	S	P	A	N	N
Filter Connector Product Code		MIL-DTL-38999 Series III	Shell Style *J - Jam Nut*	Connector Class *(See Table I)*	Insert Arrangement *IAW MIL-STD-1560*	Contact Gender *P - Pin* *S - Socket*	Termination *S - Solder Cup* *P - PC Tail*	Filter Type *P - Pi Circuit* *C - C Circuit*	Capacitance *(See Table II)*	Flange Mounting Style *N - Not Applicable*	Alternate Key Position Per MIL-DTL-38999 *A, B, C, D, E, N = Normal*

***J** - Jam Nut*



240-383J
MIL-DTL-38999 Series III Filter Connector
Jam Nut Receptacle

Glenair®

B

TABLE I: CONNECTOR CLASS

SYM	CLASS	MATERIAL	FINISH DESCRIPTION	X
M	Environmental	Aluminum	Electroless Nickel	.880 (22.4) .874 (22.2)
MT	Environmental	Aluminum	Nickel Fluorocarbon Polymer (Ni-PTFE)	
NF	Environmental	Aluminum	Cad. O.D. Over Electroless Nickel	
P	Environmental	Stainless	Electro-Deposited Nickel	
XM	Environmental	Composite	Electroless Nickel	.857 (21.8) .847 (21.5)
XMT	Environmental	Composite	Nickel Fluorocarbon Polymer (Ni-PTFE)	
XW	Environmental	Composite	Cad. O.D. Over Electroless Nickel	
ZN	Environmental	Aluminum	Zinc-Nickel Over Electroless Nickel	.880 (22.4) .874 (22.2)
H2*	Hermetic	Stainless	Electroless Nickel	

* Some dimensions do not apply, see sales drawing 240-383JH2

TABLE II: CAPACITOR ARRAY CODE CAPACITANCE RANGE

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

* Reduced DWV – Please consult factory.

MIL-DTL-38999 Series III Jam Nut Panel Cutout

SHELL SIZE CODE	SHELL SIZE	∅ H	J
A	09	.710 (18.0) .700 (17.8)	.670 (17.0) .660 (16.8)
B	11	.835 (21.2) .825 (21.0)	.771 (19.6) .761 (19.3)
C	13	1.020 (25.9) 1.010 (25.7)	.955 (24.3) .945 (24.0)
D	15	1.145 (29.1) 1.135 (28.8)	1.085 (27.6) 1.075 (27.3)
E	17	1.270 (32.3) 1.260 (32.0)	1.210 (30.7) 1.200 (30.5)
F	19	1.395 (35.4) 1.385 (35.2)	1.335 (33.9) 1.325 (33.7)
G	21	1.520 (38.6) 1.510 (38.4)	1.460 (37.1) 1.450 (36.8)
H	23	1.645 (41.8) 1.635 (41.5)	1.585 (40.3) 1.575 (40.0)
J	25	1.770 (45.0) 1.760 (44.7)	1.710 (43.4) 1.700 (43.2)

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

JAM NUT MOUNT

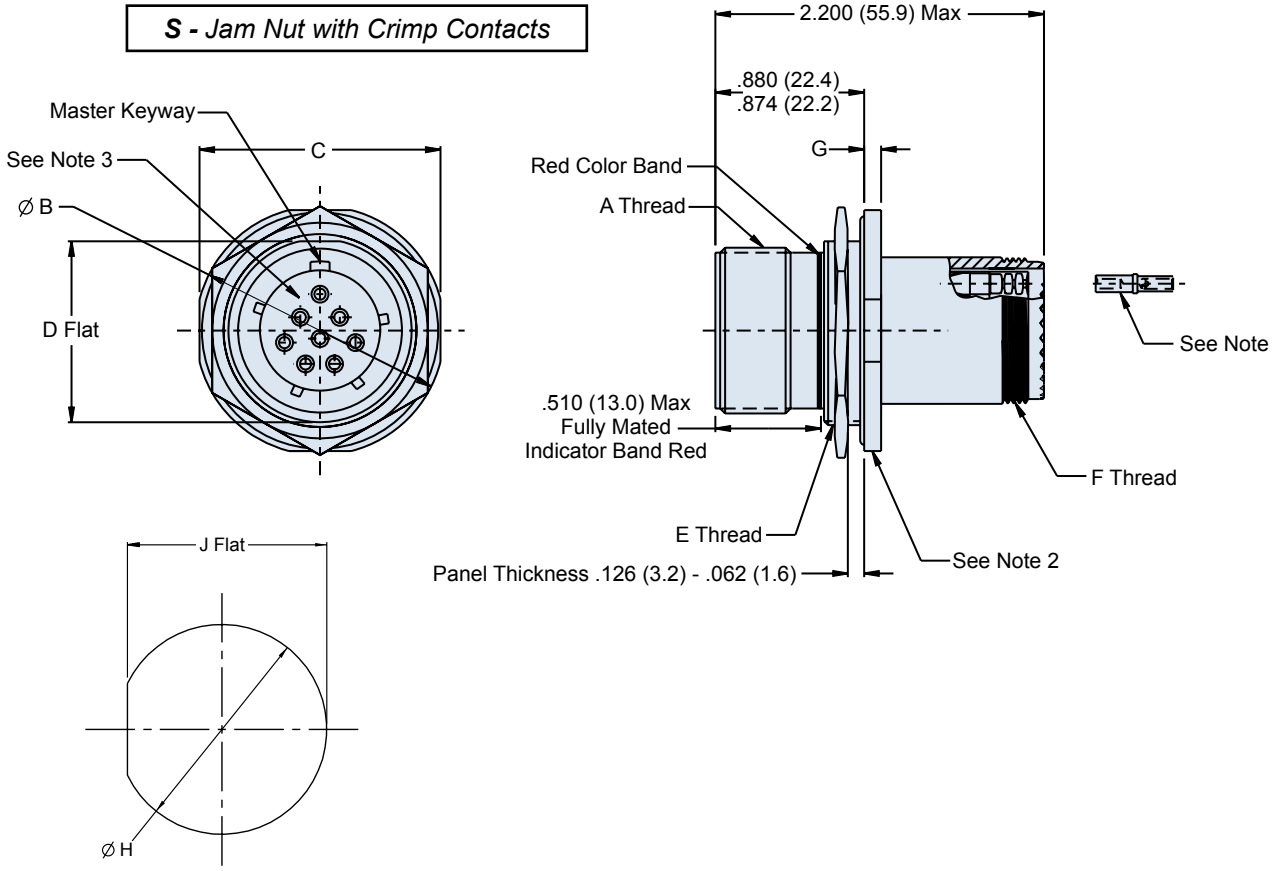
SHELL SIZE CODE	SHELL SIZE	A THREAD	∅ B	C	D	E THREAD	F THREAD	G
A	09	.6250- .1P- .3L-TS-2A	1.262 (32.1) 1.177 (29.9)	1.079 (27.4) 1.047 (26.6)	.655 (16.6) .645 (16.4)	M17 X 1.0-6g 0.100R	M12 X 1.0-6g 0.100R	.122 (3.1) .083 (2.1)
B	11	.7500- .1P- .3L-TS-2A	1.386 (35.2) 1.362 (34.6)	1.268 (32.2) 1.236 (31.4)	.755 (19.2) .745 (18.9)	M20 X 1.0-6g 0.100R	M15 X 1.0-6g 0.100R	.122 (3.1) .083 (2.1)
C	13	.8750- .1P- .3L-TS-2A	1.512 (38.4) 1.488 (37.8)	1.390 (35.3) 1.358 (34.5)	.942 (23.9) .932 (23.7)	M25 X 1.0-6g 0.100R	M18 X 1.0-6g 0.100R	.122 (3.1) .083 (2.1)
D	15	1.000- .1P- .3L-TS-2A	1.638 (41.6) 1.614 (41.0)	1.516 (38.5) 1.484 (37.7)	1.068 (27.1) 1.058 (26.8)	M28 X 1.0-6g 0.100R	M22 X 1.0-6g 0.100R	.122 (3.1) .083 (2.1)
E	17	1.1875- .1P- .3L-TS-2A	1.764 (44.8) 1.740 (44.2)	1.642 (41.7) 1.610 (40.9)	1.191 (30.3) 1.181 (30.0)	M32 X 1.0-6g 0.100R	M25 X 1.0-6g 0.100R	.122 (3.1) .083 (2.1)
F	19	1.2500- .1P- .3L-TS-2A	1.949 (49.5) 1.925 (48.9)	1.827 (46.4) 1.795 (45.6)	1.316 (33.4) 1.306 (33.2)	M35 X 1.0-6g 0.100R	M28 X 1.0-6g 0.100R	.154 (3.9) .114 (2.9)
G	21	1.3750- .1P- .3L-TS-2A	2.075 (52.7) 2.051 (52.1)	1.953 (49.6) 1.921 (48.8)	1.441 (36.6) 1.431 (36.3)	M38 X 1.0-6g 0.100R	M31 X 1.0-6g 0.100R	.154 (3.9) .114 (2.9)
H	23	1.5000- .1P- .3L-TS-2A	2.201 (55.9) 2.177 (55.3)	2.079 (52.8) 2.047 (52.0)	1.566 (39.8) 1.556 (39.5)	M41 X 1.0-6g 0.100R	M34 X 1.0-6g 0.100R	.154 (3.9) .114 (2.9)
J	25	1.6250- .1P- .3L-TS-2A	2.323 (59.0) 2.299 (58.4)	2.205 (56.0) 2.173 (55.2)	1.691 (43.0) 1.681 (42.7)	M44 X 1.0-6g 0.100R	M37 X 1.0-6g 0.100R	.154 (3.9) .114 (2.9)

240-383S
MIL-DTL-38999 Series III Filter Connector
Jam Nut Receptacle
with Crimp Removable Contacts

240	-	383	S	P	15-35	P	C	P	A	N	N
Filter Connector Product Code		MIL-DTL-38999 Series III		Insert Arrangement *IAW MIL-STD-1560*		Contact Gender *P - Pin* *S - Socket*	Filter Type *P - Pi Circuit* *C - C Circuit*		Capacitance *(See Table II)*		Alternate Key Position Per MIL-DTL-38999 *A, B, C, D, E, N = Normal*
			Shell Style *S - Crimp Removable Jam Nut*		Connector Class *(See Table I)*		Termination *C - Crimp*			Flange Mounting Style *N - Not Applicable*	

NOTE: Crimp removable contacts to conform to MIL-C-39029/57-358, Size 16, MIL-C-39029/57-357 Size 20, and MIL-C-39029/57-354 Size 22D (Supplied loose).

***S** - Jam Nut with Crimp Contacts*



240-383S
MIL-DTL-38999 Series III Filter Connector
Jam Nut Receptacle
with Crimp Removable Contacts

TABLE I: CONNECTOR CLASS			
SYM	CLASS	MATERIAL	FINISH DESCRIPTION
M	Environmental	Aluminum	Electroless Nickel
MT	Environmental	Aluminum	Nickel Fluorocarbon Polymer (Ni-PTFE)
NF	Environmental	Aluminum	Cad. O.D. Over Electroless Nickel
P	Environmental	Stainless	Electro-Deposited Nickel
XM	Environmental	Composite	Electroless Nickel
XMT	Environmental	Composite	Nickel Fluorocarbon Polymer (Ni-PTFE)
XW	Environmental	Composite	Cad. O.D. Over Electroless Nickel
ZN	Environmental	Aluminum	Zinc-Nickel Over Electroless Nickel
H2*	Hermetic	Stainless	Electroless Nickel

* Some dimensions do not apply, see sales drawing 240-383JH2

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

* Reduced DWV – Please consult factory.

MIL-DTL-38999 Series III Jam Nut Panel Cutout			
SHELL SIZE CODE	SHELL SIZE	∅ H	J
A	09	.710 (18.0) .700 (17.8)	.670 (17.0) .660 (16.8)
B	11	.835 (21.2) .825 (21.0)	.771 (19.6) .761 (19.3)
C	13	1.020 (25.9) 1.010 (25.7)	.955 (24.3) .945 (24.0)
D	15	1.145 (29.1) 1.135 (28.8)	1.085 (27.6) 1.075 (27.3)
E	17	1.270 (32.3) 1.260 (32.0)	1.210 (30.7) 1.200 (30.5)
F	19	1.395 (35.4) 1.385 (35.2)	1.335 (33.9) 1.325 (33.7)
G	21	1.520 (38.6) 1.510 (38.4)	1.460 (37.1) 1.450 (36.8)
H	23	1.645 (41.8) 1.635 (41.5)	1.585 (40.3) 1.575 (40.0)
J	25	1.770 (45.0) 1.760 (44.7)	1.710 (43.4) 1.700 (43.2)

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

JAM NUT MOUNT								
SHELL SIZE CODE	SHELL SIZE	A THREAD	∅ B	C	D	E THREAD	F THREAD	G
A	09	.6250- .1P- .3L-TS-2A	1.262 (32.1) 1.248 (31.7)	1.079 (27.4) 1.047 (26.6)	.655 (16.6) .645 (16.4)	M17 X 1.0-6g 0.100R	M12 X 1.0-6g 0.100R	.122 (3.1) .083 (2.1)
B	11	.7500- .1P- .3L-TS-2A	1.386 (35.2) 1.362 (34.6)	1.268 (32.2) 1.236 (31.4)	.755 (19.2) .745 (18.9)	M20 X 1.0-6g 0.100R	M15 X 1.0-6g 0.100R	.122 (3.1) .083 (2.1)
C	13	.8750- .1P- .3L-TS-2A	1.512 (38.4) 1.488 (37.8)	1.390 (35.3) 1.358 (34.5)	.942 (23.9) .932 (23.7)	M25 X 1.0-6g 0.100R	M18 X 1.0-6g 0.100R	.122 (3.1) .083 (2.1)
D	15	1.000- .1P- .3L-TS-2A	1.638 (41.6) 1.614 (41.0)	1.516 (38.5) 1.484 (37.7)	1.068 (27.1) 1.058 (26.9)	M28 X 1.0-6g 0.100R	M22 X 1.0-6g 0.100R	.122 (3.1) .083 (2.1)
E	17	1.1875- .1P- .3L-TS-2A	1.764 (44.8) 1.740 (44.2)	1.642 (41.7) 1.610 (40.9)	1.191 (30.3) 1.181 (30.0)	M32 X 1.0-6g 0.100R	M25 X 1.0-6g 0.100R	.122 (3.1) .083 (2.1)
F	19	1.2500- .1P- .3L-TS-2A	1.949 (49.5) 1.925 (48.9)	1.827 (46.4) 1.795 (45.6)	1.316 (33.4) 1.306 (33.2)	M35 X 1.0-6g 0.100R	M28 X 1.0-6g 0.100R	.154 (3.9) .114 (2.9)
G	21	1.3750- .1P- .3L-TS-2A	2.075 (52.7) 2.051 (52.1)	1.953 (49.6) 1.921 (48.8)	1.441 (36.6) 1.431 (36.3)	M38 X 1.0-6g 0.100R	M31 X 1.0-6g 0.100R	.154 (3.9) .114 (2.9)
H	23	1.5000- .1P- .3L-TS-2A	2.201 (55.9) 2.177 (55.3)	2.079 (52.8) 2.047 (52.0)	1.566 (39.8) 1.556 (39.5)	M41 X 1.0-6g 0.100R	M34 X 1.0-6g 0.100R	.154 (3.9) .114 (2.9)
J	25	1.6250- .1P- .3L-TS-2A	2.323 (59.0) 2.299 (58.4)	2.205 (56.0) 2.173 (55.2)	1.691 (43.0) 1.681 (42.7)	M44 X 1.0-6g 0.100R	M37 X 1.0-6g 0.100R	.154 (3.9) .114 (2.9)

240-383D
MIL-DTL-38999 Series III Filter Connector
Dual Flange Wall Mount Receptacle with P.C.Tails

240	-	383	D	P	15-35	P	P	P	A	N	N

- **Filter Connector Product Code**: 240
- **MIL-DTL-38999 Series III**: 383
- **Shell Style**: D - Dual Flange Wall Mount
- **Connector Class**: P (See Table I)
- **Insert Arrangement**: 15-35 IAW MIL-STD-1560
- **Contact Gender**: P - Pin; S - Socket
- **Termination**: P - PC Tail
- **Filter Type**: P - Pi Circuit; C - C Circuit
- **Capacitance**: A (See Table II)
- **Flange Mounting Style**: N - Not Applicable/Mfgs. Option
- **Alternate Key Position**: N - Per MIL-DTL-38999 A, B, C, D, E, N = Normal

***D** - Dual Flange Wall Mount*

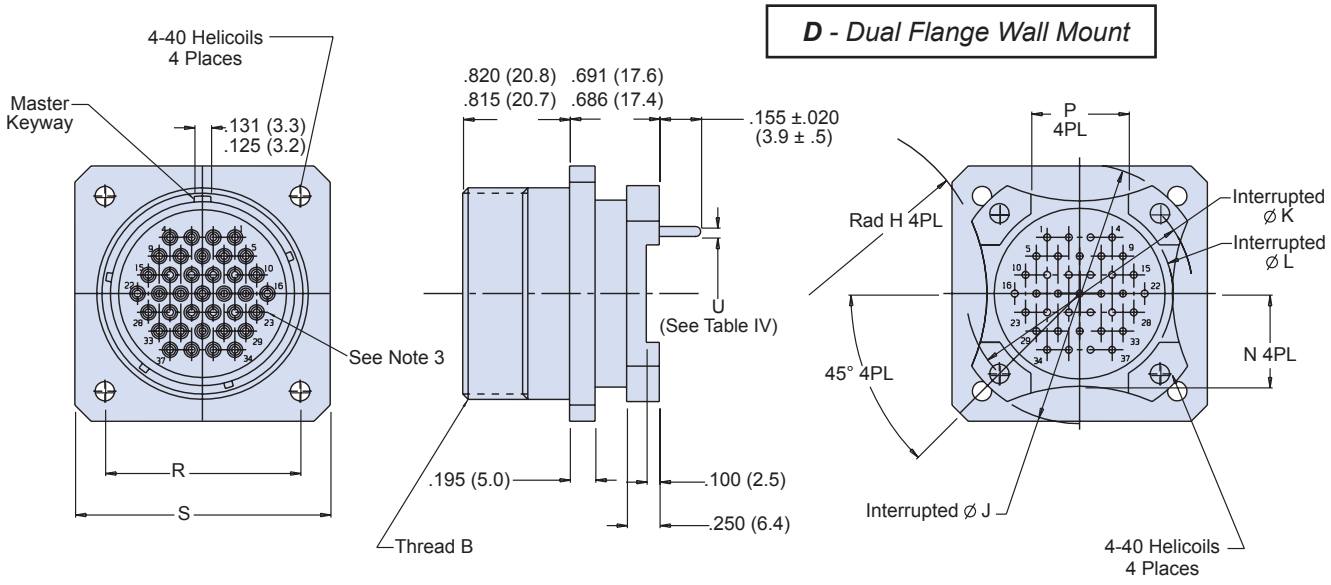
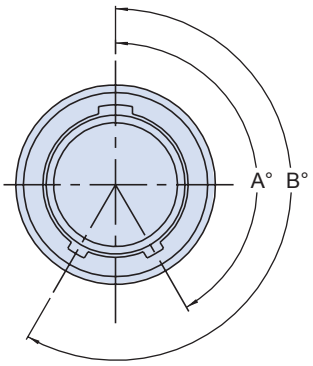


TABLE IV
ALTERNATE KEY AND KEYWAY POSITION

Position	A°	B°
A	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°



Normal and Alternate Position
Key Rotation

TABLE V:
PC TAIL DIAMETER

Contact Size	ØU
22D	.018/.021 (0.46/0.53)
20	.029/.031 (0.7/0.8)
16	.038/.042 (1.0/1.1)

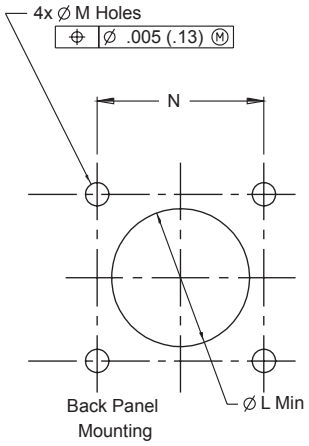
TABLE I: CONNECTOR CLASS			
SYM	CLASS	MATERIAL	FINISH DESCRIPTION
M	Environmental	Aluminum	Electroless Nickel
ME	Environmental	Aluminum	Electroless Nickel, 16 Hrs. Salt Spray
MT	Environmental	Aluminum	Nickel Fluorocarbon Polymer (Ni-PTFE)
NF	Environmental	Aluminum	Cad. O.D. Over Electroless Nickel
P	Environmental	Stainless	Electro-Deposited Nickel
XM	Environmental	Composite	Electroless Nickel
XMT	Environmental	Composite	Nickel Fluorocarbon Polymer (Ni-PTFE)
XW	Environmental	Composite	Cad. O.D. Over Electroless Nickel
ZN	Environmental	Aluminum	Zinc-Nickel Over Electroless Nickel
H2*	Hermetic	Stainless	Electroless Nickel

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

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

* Reduced DWV – Please consult factory.

TABLE III: DIMENSIONS									
SHELL SIZE	B THREAD (PLATED)	P +/- .01 (.25)	R BSC	S +/- .012 (.3)	ØJ +/- .005 (.13)	ØK BSC	ØL +/- .005 (.13)	H +/- .020 (.51)	N +/- .020 (.51)
9	.625-.1P-.3L-TS-2A	.225 (5.7)	.719 (18.3)	.937 (23.8)	1.016 (25.8)	.752 (19.1)	.532 (13.5)	.225 (5.7)	.275 (7.0)
11	.7500- .1P- .3L-TS-2A	.250 (6.4)	.812 (20.6)	1.181 (30.0)	1.062 (27.0)	.850 (21.6)	.595 (15.1)	.250 (6.4)	.290 (7.4)
13	.8750- .1P- .3L-TS-2A	.250 (6.4)	.906 (23.0)	1.277 (32.4)	1.250 (31.8)	.994 (25.2)	.720 (18.3)	.375 (9.5)	.370 (9.4)
15	1.000- .1P- .3L-TS-2A	.325 (8.2)	.969 (24.6)	1.371 (34.8)	1.375 (34.9)	1.119 (28.4)	.843 (21.4)	.438 (11.1)	.440 (11.2)
17	1.1875- .1P- .3L-TS-2A	.375 (9.5)	1.062 (27.0)	1.462 (37.1)	1.500 (38.1)	1.237 (31.4)	1.000 (25.4)	.562 (14.3)	.495 (12.6)
19	1.2500- .1P- .3L-TS-2A	.500 (12.7)	1.156 (29.4)	1.588 (40.3)	1.625 (41.3)	1.379 (35.0)	1.125 (28.6)	.875 (22.2)	.540 (13.7)
21	1.3750- .1P- .3L-TS-2A	.562 (14.3)	1.250 (31.8)	1.714 (43.5)	1.750 (44.5)	1.489 (37.8)	1.240 (31.5)	1.170 (29.7)	.625 (15.9)
23	1.5000- .1P- .3L-TS-2A	.688 (17.5)	1.375 (34.9)	1.840 (46.7)	1.875 (47.6)	1.619 (41.1)	1.328 (33.7)	1.250 (31.8)	.660 (16.8)
25	1.6250- .1P- .3L-TS-2A	.750 (19.1)	1.500 (38.1)	1.962 (49.8)	2.000 (50.8)	1.744 (44.3)	1.453 (36.9)	1.375 (34.9)	.740 (18.8)

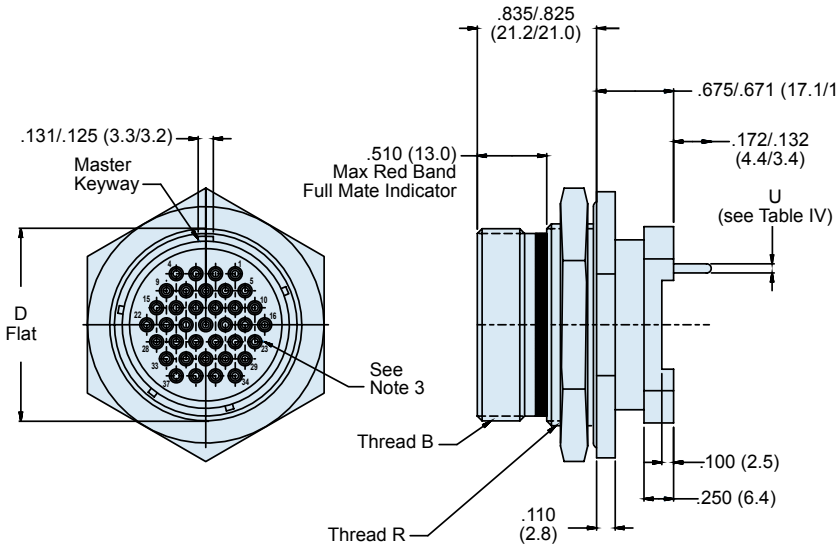


Panel Cutout Dimensions			
Shell Size	ø L Min	M Holes	N BSC
09	.656 (16.7)	.133 (3.4) .123 (3.1)	.719 (18.3)
11	.792 (20.2)	.133 (3.4) .123 (3.1)	.812 (20.6)
13	.922 (23.4)	.133 (3.4) .123 (3.1)	.906 (23.0)
15	1.047 (26.6)	.133 (3.4) .123 (3.1)	.969 (24.6)
17	1.219 (31.0)	.133 (3.4) .123 (3.1)	1.062 (27.0)
19	1.297 (32.9)	.133 (3.4) .123 (3.1)	1.156 (29.4)
21	1.422 (36.1)	.133 (3.4) .123 (3.1)	1.250 (31.8)
23	1.547 (39.3)	.159 (4.0) .149 (3.8)	1.375 (34.9)
25	1.672 (42.5)	.155 (3.9) .145 (3.7)	1.500 (38.1)

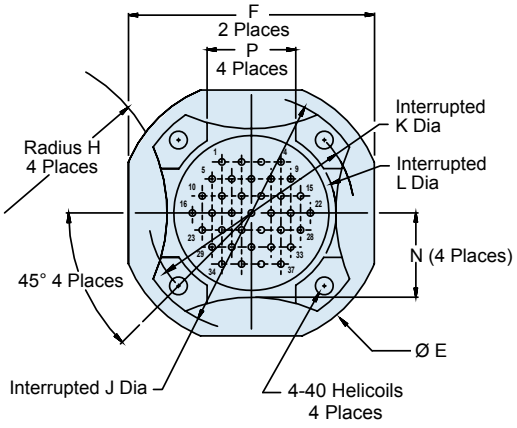
240-383E
MIL-DTL-38999 Series III Filter Connector
Dual Flange Jam Nut Receptacle

240	-	383	E	P	15-35	P	P	P	A	N	N

- **MIL-DTL-38999 Series III**
- **Filter Connector Product Code**
- **Contact Gender**
  P - Pin
  S - Socket
- **Insert Arrangement**
  IAW MIL-STD-1560
- **Filter Type**
  P - Pi Circuit
  C - C Circuit
- **Capacitance**
  (See Table II)
- **Alternate Key Position**
  Per MIL-DTL-38999
  A, B, C, D, E, N = Normal
- **Shell Style**
  E - Dual Flange Jam Nut
- **Connector Class**
  (See Table I)
- **Termination**
  P - PC Tail
- **Flange Mounting Style**
  N - Not Applicable



***E** - Dual Flange Jam Nut*



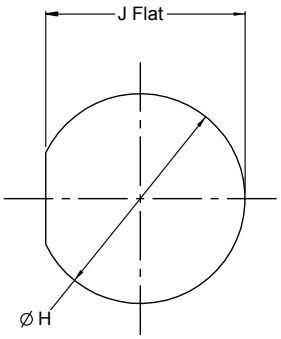


TABLE V: PC TAIL DIAMETER

Contact Size	ØU
22D	.018/.021 (0.46/0.53)
20	.029/.031 (0.7/0.8)
16	.038/.042 (1.0/1.1)

TABLE I: CONNECTOR CLASS

SYM	CLASS	MATERIAL	FINISH DESCRIPTION
M	Environmental	Aluminum	Electroless Nickel
ME	Environmental	Aluminum	Electroless Nickel, 16 Hrs. Salt Spray
MT	Environmental	Aluminum	Nickel Fluorocarbon Polymer (Ni-PTFE)
NF	Environmental	Aluminum	Cad. O.D. Over Electroless Nickel
P	Environmental	Stainless	Electro-Deposited Nickel
XM	Environmental	Composite	Electroless Nickel
XMT	Environmental	Composite	Nickel Fluorocarbon Polymer (Ni-PTFE)
XW	Environmental	Composite	Cad. O.D. Over Electroless Nickel
ZN	Environmental	Aluminum	Zinc-Nickel Over Electroless Nickel
H2*	Hermetic	Stainless	Electroless Nickel

TABLE II: CAPACITOR ARRAY CODE CAPACITANCE RANGE

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

* Reduced DWV – Please consult factory.

MIL-DTL-38999 Series III Jam Nut Panel Cutout

SHELL SIZE	∅ H	J
09	.710 (18.0) .700 (17.8)	.670 (17.0) .660 (16.8)
11	.835 (21.2) .825 (21.0)	.771 (19.6) .761 (19.3)
13	1.020 (25.9) 1.010 (25.7)	.955 (24.3) .945 (24.0)
15	1.145 (29.1) 1.135 (28.8)	1.085 (27.6) 1.075 (27.3)
17	1.270 (32.3) 1.260 (32.0)	1.210 (30.7) 1.200 (30.5)
19	1.395 (35.4) 1.385 (35.2)	1.335 (33.9) 1.325 (33.7)
21	1.520 (38.6) 1.510 (38.4)	1.460 (37.1) 1.450 (36.8)
23	1.645 (41.8) 1.635 (41.5)	1.585 (40.3) 1.575 (40.0)
25	1.770 (45.0) 1.760 (44.7)	1.710 (43.4) 1.700 (43.2)

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

TABLE III: DIMENSIONS

SHELL SIZE	B Thread (Plated)	D ± .005	Ø E ± .012	F ± .016	P ±.010 (0.25)	R Thread Metric (Plated)	J Dia ±.005 (0.13)	K Dia Basic	L Dia ±.005 (0.13)	H ±.020 (0.51)	N ±.020 (0.51)
9	.625- . 1P- .3L-TS-2A	.651 (16.5)	1.250 (31.8)	1.063 (27.0)	.225 (5.7)	M17 x 1-6g-0.10R	1.016 (25.8)	.752 (19.1)	.532 (13.5)	.225 (5.7)	.275 (7.0)
11	.7500- .1P- .3L-TS-2A	.751 (19.1)	1.377 (35.0)	1.259 (32.0)	.250 (6.4)	M20 x 1-6g-0.10R	1.062 (27.0)	.850 (21.6)	.595 (15.1)	.250 (6.4)	.290 (7.4)
13	.8750- .1P- .3L-TS-2A	.937 (23.8)	1.500 (38.1)	1.374 (34.9)	.250 (6.4)	.M25 x 1-6g-0.10R	1.250 (31.8)	.994 (25.2)	.720 (18.3)	.375 (9.5)	.370 (9.4)
15	1.0000- .1P- .3L-TS-2A	1.063 (27.0)	1.625 (41.3)	1.500 (38.1)	.325 (8.2)	M28 x 1-6g-0.10R	1.375 (34.9)	1.119 (28.4)	.843 (21.4)	.438 (11.1)	.440 (11.2)
17	1.8750- .1P- .3L-TS-2A	1.187 (30.2)	1.750 (44.5)	1.625 (41.3)	.375 (9.5)	M32 x 1-6g-0.10R	1.500 (38.1)	1.237 (31.4)	1.000 (25.4)	.562 (14.3)	.495 (12.6)
19	1.2500- .1P- .3L-TS-2A	1.311 (33.3)	1.937 (49.2)	1.822 (46.3)	.500 (12.7)	M35 x 1-6g-0.10R	1.625 (41.3)	1.379 (35.0)	1.125 (28.6)	.875 (22.2)	.540 (13.7)
21	1.3750- .1P- .3L-TS-2A	1.434 (36.4)	2.063 (52.4)	1.940 (49.3)	.562 (14.3)	M38 x 1-6g-0.10R	1.750 (44.5)	1.489 (37.8)	1.240 (31.5)	1.170 (29.7)	.625 (15.9)
23	1.5000- .1P- .3L-TS-2A	1.561 (39.7)	2.190 (55.6)	2.073 (52.7)	.688 (17.5)	M41 x 1-6g-0.10R	1.875 (47.6)	1.619 (41.1)	1.328 (33.7)	1.250 (31.8)	.660 (16.8)
25	1.6250- .1P- .3L-TS-2A	1.687 (42.9)	2.311 (58.7)	2.189 (55.6)	.750 (19.1)	M44 x 1-6g-0.10R	2.000 (50.8)	1.744 (44.3)	1.453 (36.9)	1.375 (34.9)	.740 (18.8)

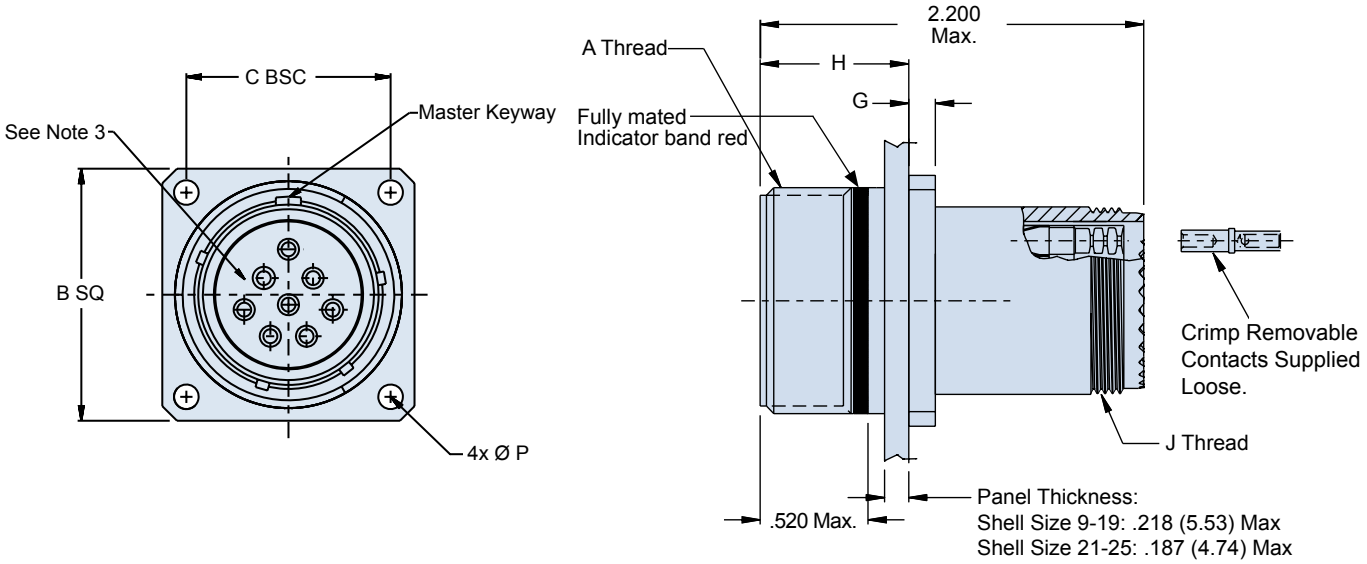
240-383R
MIL-DTL-38999 Series III Filter Connector
Wall Mount Receptacle
with Crimp Removable Contacts

240	-	383	R	P	15-35	P	C	P	A	C	N
Filter Connector Product Code		MIL-DTL-38999 Series III	Shell Style: *R - Crimp Removable Wall Mount*	Connector Class: *(See Table I)*	Insert Arrangement: *IAW MIL-STD-1560*	Contact Gender: *P - Pin*, *S - Socket*	Termination: *C - Crimp*	Filter Type: *P - Pi Circuit*, *C - C Circuit*	Capacitance: *(See Table II)*	Flange Mounting Style: *H - Round Holes, Chamfered*, *C - Clinch Nuts (4-40 UNC)*, *M - Metric Clinch Nuts (M3)*, *S - Slotted Holes, Chamfered*	Alternate Key Position: Per MIL-DTL-38999, *A, B, C, D, E, N = Normal*

NOTE: Crimp removable contacts to conform to MIL-C-39029/57-358, Size 16, MIL-C-39029/57-357 Size 20, and MIL-C-39029/57-354 Size 22D (Supplied loose).

Clinch Nuts and Metric Clinch Nuts Not Available for Composites

***R** - Wall Mount with Crimp Removable Contacts*

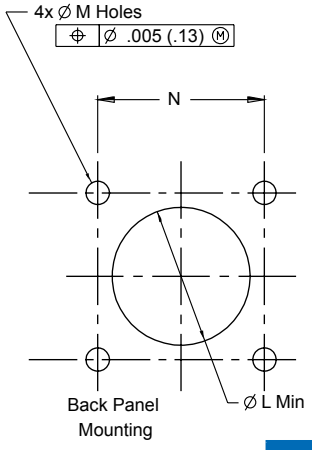


240-383R
MIL-DTL-38999 Series III Filter Connector
Wall Mount Receptacle
with Crimp Removable Contacts

Glenair®

B

Panel Cutout Dimensions			
Shell Size	⌀ L Min	M Holes	N BSC
09	.656 (16.7)	.133 (3.4) .123 (3.1)	.719 (18.3)
11	.792 (20.2)	.133 (3.4) .123 (3.1)	.812 (20.6)
13	.922 (23.4)	.133 (3.4) .123 (3.1)	.906 (23.0)
15	.047 (26.6)	.133 (3.4) .123 (3.1)	.969 (24.6)
17	.219 (31.0)	.133 (3.4) .123 (3.1)	1.062 (27.0)
19	1.297 (32.9)	.133 (3.4) .123 (3.1)	1.156 (29.4)
21	1.422 (36.1)	.133 (3.4) .123 (3.1)	1.250 (31.8)
23	1.547 (39.3)	.159 (4.0) .149 (3.8)	1.375 (34.9)
25	1.672 (42.5)	.155 (3.9) .145 (3.7)	1.500 (38.1)



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

TABLE I: CONNECTOR CLASS			
SYM	CLASS	MATERIAL	FINISH DESCRIPTION
M	Environmental	Aluminum	Electroless Nickel
MT	Environmental	Aluminum	Nickel Fluorocarbon Polymer (Ni-PTFE)
NF	Environmental	Aluminum	Cad. O.D. Over Electroless Nickel
P	Environmental	Stainless	Electro-Deposited Nickel
XM	Environmental	Composite	Electroless Nickel
XMT	Environmental	Composite	Nickel Fluorocarbon Polymer (Ni-PTFE)
XW	Environmental	Composite	Cad. O.D. Over Electroless Nickel
ZN	Environmental	Aluminum	Zinc-Nickel Over Electroless Nickel
H2*	Hermetic	Stainless	Electroless Nickel

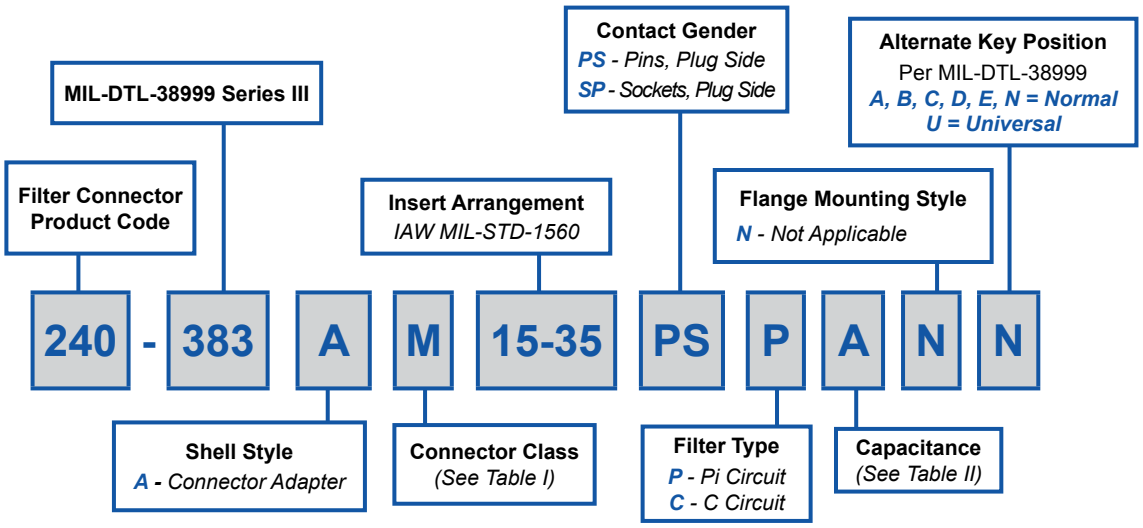
TABLE II: CAPACITOR ARRAY CODE CAPACITANCE RANGE		
CLASS	PI - CIRCUIT (pF)	C - CIRCUIT (pF)
X*	160,000 - 240,000	80,000 - 120,000
Y*	80,000 - 120,000	40,000 - 60,000
Z*	60,000 - 90,000	30,000 - 45,000
A	38,000 - 56,000	19,000 - 28,000
B	32,000 - 45,000	16,000 - 22,500
C	18,000 - 33,000	9,000 - 16,500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

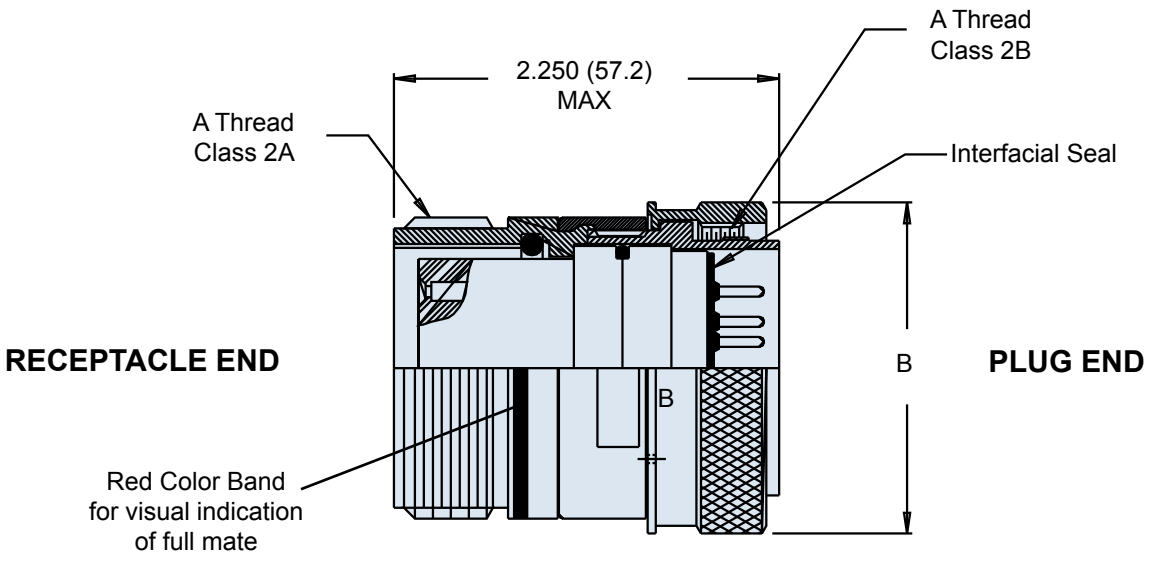
* Reduced DWV – Please consult factory.

WALL MOUNT WITH CRIMP CONTACTS											
SHELL SIZE CODE	SHELL SIZE	A THREAD	B SQ	C BSC	D BSC	E	F	G	H	J THREAD	PØ ± .010
A	09	.6250- .1P- .3L-TS-2A	0.949 (24.1) 0.925 (23.5)	.719 (18.3)	.594 (15.1)	.136 (3.5) .120 (3.0)	.224 (5.7) .208 (5.3)	.143 (3.6) .083 (2.1)	.820 (20.8) .771 (19.6)	M12 X 1.0-6g 0.100R	.128 (3.3)
B	11	.7500- .1P- .3L-TS-2A	1.043 (26.5) 1.019 (25.9)	.812 (20.6)	.719 (18.3)	.136 (3.5) .120 (3.0)	.202 (5.1) .186 (4.7)		.820 (20.8) .771 (19.6)	M15 X 1.0-6g 0.100R	
C	13	.8750- .1P- .3L-TS-2A	1.138 (28.9) 1.114 (28.3)	.906 (23.0)	.812 (20.6)	.136 (3.5) .120 (3.0)	.202 (5.1) .186 (4.7)		.820 (20.8) .771 (19.6)	M18 X 1.0-6g 0.100R	
D	15	1.000- .1P- .3L-TS-2A	1.232 (31.3) 1.208 (30.7)	.969 (24.6)	.906 (23.0)	.136 (3.5) .120 (3.0)	.202 (5.1) .186 (4.7)		.820 (20.8) .771 (19.6)	M22 X 1.0-6g 0.100R	
E	17	1.1875- .1P- .3L-TS-2A	1.323 (33.6) 1.299 (33.0)	1.062 (27.0)	.969 (24.6)	.136 (3.5) .120 (3.0)	.202 (5.1) .186 (4.7)		.820 (20.8) .771 (19.6)	M25 X 1.0-6g 0.100R	
F	19	1.2500- .1P- .3L-TS-2A	1.449 (36.8) 1.425 (36.2)	1.156 (29.4)	1.062 (27.0)	.136 (3.5) .120 (3.0)	.202 (5.1) .186 (4.7)		.820 (20.8) .771 (19.6)	M28 X 1.0-6g 0.100R	
G	21	1.3750- .1P- .3L-TS-2A	1.575 (40.0) 1.551 (39.4)	1.250 (31.8)	1.156 (29.4)	.136 (3.5) .120 (3.0)	.202 (5.1) .186 (4.7)		.790 (20.1) .741 (18.8)	M31 X 1.0-6g 0.100R	
H	23	1.5000- .1P- .3L-TS-2A	1.701 (43.2) 1.677 (42.6)	1.375 (34.9)	1.250 (31.8)	.162 (4.1) .146 (3.7)	.250 (6.4) .083 (2.1)	.171 (4.3) .083 (2.1)	.790 (20.1) .741 (18.8)	M34 X 1.0-6g 0.100R	.156 (4.0)
J	25	1.6250- .1P- .3L-TS-2A	1.823 (46.3) 1.799 (45.7)	1.500 (38.1)	1.375 (34.9)	.162 (4.1) .146 (3.7)	.250 (6.4) .083 (2.1)		.790 (20.1) .741 (18.8)	M37 X 1.0-6g 0.100R	

CAGE CODE 06324
Printed in U.S.A.

240-383A
MIL-DTL-38999 Series III Filter Connector
Connector Adapter





***A** - Connector Adapter*

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

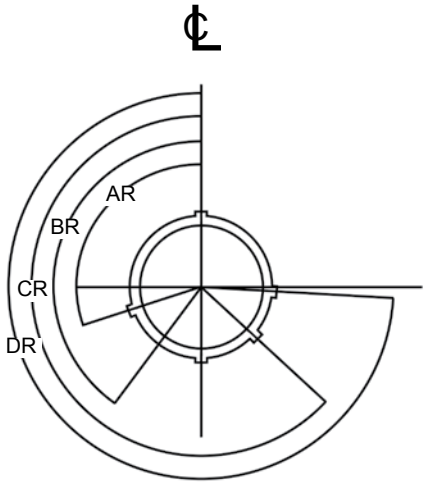
TABLE I: CONNECTOR CLASS			
SYM	CLASS	MATERIAL	FINISH DESCRIPTION
M	Environmental	Aluminum	Electroless Nickel
MT	Environmental	Aluminum	Nickel Fluorocarbon Polymer (Ni-PTFE)
NF	Environmental	Aluminum	Cad. O.D. Over Electroless Nickel
P	Environmental	Stainless	Electro-Deposited Nickel
ZN	Environmental	Aluminum	Zinc-Nickel Over Electroless Nickel
H2*	Hermetic	Stainless	Electroless Nickel

* Some dimensions do not apply, see sales drawing 240-383JH2

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

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

* Reduced DWV – Please consult factory.



FACE VIEW
RECEPTACLE

DIMENSIONS			
SHELL SIZE CODE	SHELL SIZE	A THREAD CLASS 2	B DIA. MAX
A-1	09	.6250- .1P- .3L-TS-2A	.858 (21.8)
B-1	11	.7500- .1P- .3L-TS-2A	.984 (25.0)
C-1	13	.8750- .1P- .3L-TS-2A	1.157 (29.4)
D-1	15	1.000- .1P- .3L-TS-2A	1.280 (32.5)
E-1	17	1.1875- .1P- .3L-TS-2A	1.406 (35.7)
F-1	19	1.2500- .1P- .3L-TS-2A	1.516 (38.5)
G-1	21	1.3750- .1P- .3L-TS-2A	1.642 (41.7)
H-1	23	1.5000- .1P- .3L-TS-2A	1.768 (44.9)
J-1	25	1.6250- .1P- .3L-TS-2A	1.890 (48.0)

Glenair MIL-DTL-38999 Series IV Type Filter Connector with Breech-Lock Coupling

Master How to Order • Part Number Breakdown

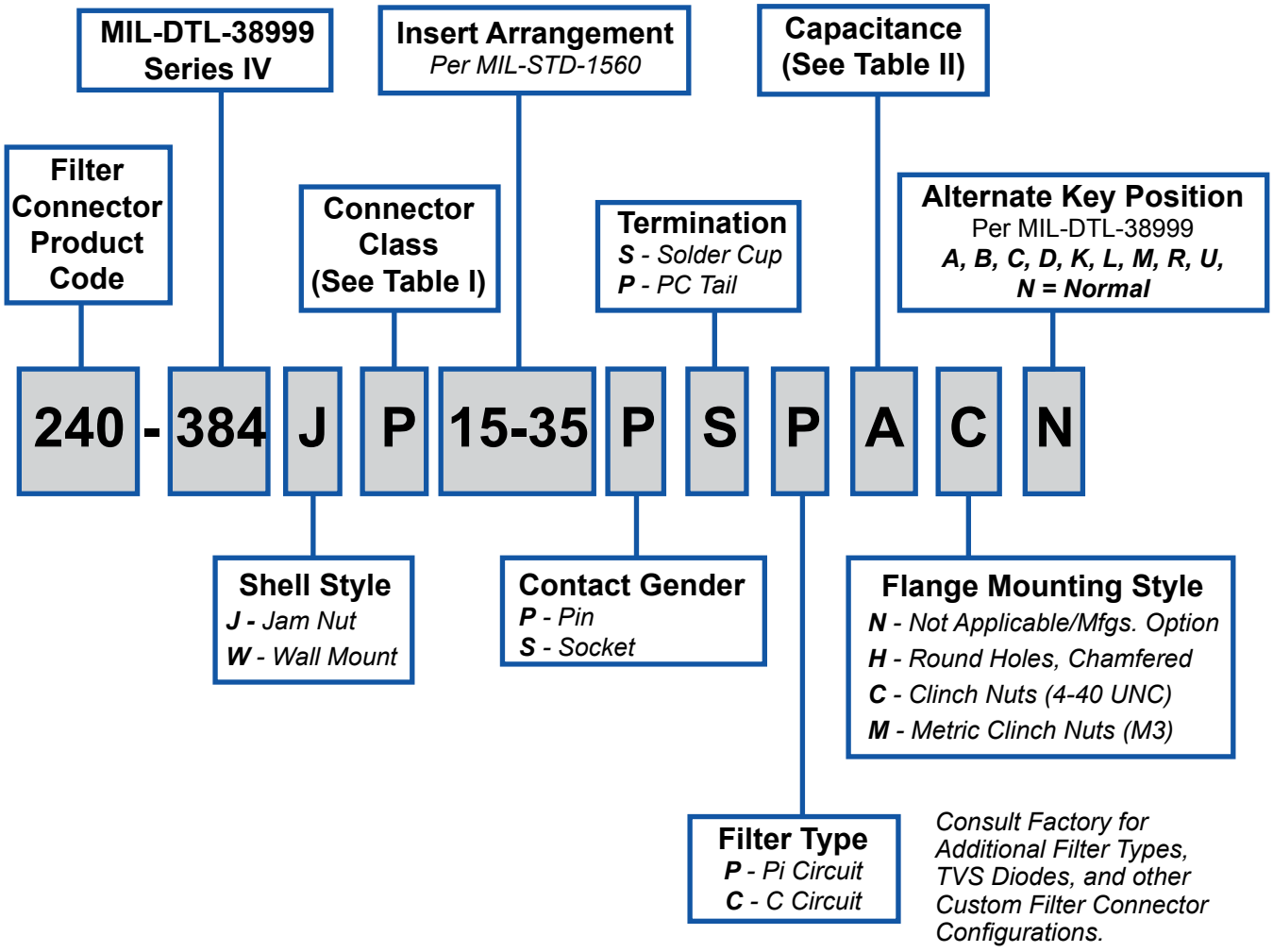


TABLE I: CONNECTOR CLASS

SYM	CLASS	MATERIAL	FINISH DESCRIPTION
M	Environmental	Aluminum	Electroless Nickel
MT	Environmental	Aluminum	Nickel Fluorocarbon Polymer (Ni-PTFE)
NF	Environmental	Aluminum	Cadmium O.D. Over Electroless Nickel
P	Environmental	Stainless Steel	Electro-Deposited Nickel
ZN	Environmental	Aluminum	Zinc-Nickel Over Electroless Nickel
H2	Hermetic	Stainless Steel	Electroless Nickel

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

* Reduced DWV – Please consult factory.

APPLICATION NOTES

1. Materials/Finishes: Shells, Barrel, Coupling Nut, Jam Nut - See Table I
   Insulators - high grade rigid dielectric/N.A.
   Seals - Flourosilicone
   PC Tail & Solder Cup contacts: 50µ" Gold over 50µ" Nickel
2. Assembly to be identified with Glenair's name, part number, and date code - space permitting.
3. Insert Arrangement in accordance with MIL-STD-1560.
   (Arrangement shown for reference only)
4. EMI Circular Filter Receptacle connector designed to meet requirements of MIL-STD-2120 and MIL-DTL-38999, Series IV.
5. All contacts to have identical filter value. Other filter arrangements available, contact factory.
6. Electrical Ratings: DWV- 500 VDC; Standard Operating Voltage 200 Volts DC; Current Rating 5 Amps (size 22);
7. Insulation Resistance: 5000 MegOhms Min. at 200 VDC.
8. Operating Temperature -55°C to +125°C (Env Class Connectors)
9. Other filter styles (C-L, L-C, Unbalanced PI, Multi-Stage, Multi-Value) are available, please consult the factory.
10. Metric Dimensions (mm) are indicated in parentheses.

240-384J
MIL-DTL-38999 Series IV Filter Connector
Jam Nut Receptacle

Filter Connector Product Code	MIL-DTL-38999 Series IV	Shell Style	Insert Arrangement	Connector Class	Contact Gender	Termination	Filter Type	Capacitance	Flange Mounting Style	Alternate Key Position
240 -	384	J	P	15-35	P	P	P	A	N	N
		J - Jam Nut		*(See Table I)*	*P - Pin*	*P - PC Tail*	*P - Pi Circuit*	*(See Table II)*	*N - Not Applicable*	Per MIL-DTL-38999 *A, B, C, D, K, L, M, R, U* *N = Normal*
			IAW MIL-STD-1560		*S - Socket*		*C - C Circuit*			

J - Jam Nut

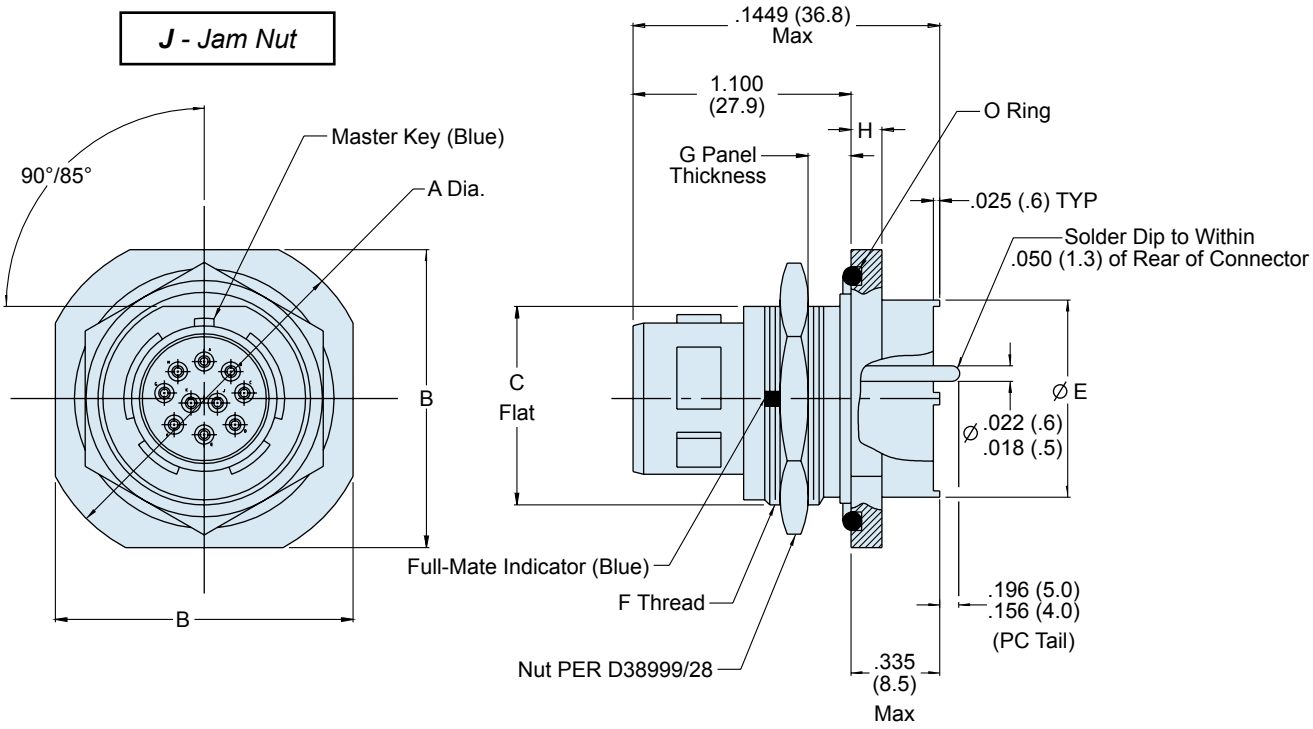


TABLE I: CONNECTOR CLASS			
SYM	CLASS	MATERIAL	FINISH DESCRIPTION
M	Environmental	Aluminum	Electroless Nickel
MT	Environmental	Aluminum	Nickel Fluorocarbon Polymer (Ni-PTFE)
NF	Environmental	Aluminum	Cadmium O.D. Over Electroless Nickel
P	Environmental	Stainless Steel	Electro-Deposited Nickel
ZN	Environmental	Aluminum	Zinc-Nickel Over Electroless Nickel
H2	Hermetic	Stainless Steel	Electroless Nickel

TABLE II: 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
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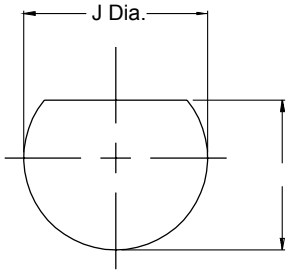
B	32,000 - 45,000	16,000 - 22,500
C	18,000 - 33,000	9,000 - 16,500
D	8,000 - 12,000	4,000 - 6,000
E	3,300 - 5,000	1,650 - 2,500
F	800 - 1,300	400 - 650
G	400 - 600	200 - 300

* Reduced DWV – Please consult factory.



Recomended Panel Cut-Out

TABLE III: DIMENSIONS										
SHELL SIZE CODE	SHELL SIZE	A Diameter	B	C FLAT	E DIAMETER	F THREAD ISO METRIC	G	H	J Diameter	K
B	11	1.385 (35.2) 1.362 (34.6)	1.267 (32.2) 1.232 (31.3)	.754 (19.2) .745 (18.9)	.779 (19.8) .759 (19.3)	M20 X 1.0-6g	.125 (3.2) .059 (1.5)	.118 (3.0) .094 (2.4)	.832 (21.1) .822 (20.9)	.769 (19.5) .759 (19.3)
C	13	1.511 (38.4) 1.488 (37.8)	1.393 (35.4) 1.358 (34.5)	.941 (23.9) .932 (23.7)	.909 (23.1) .889 (22.6)	M25 X 1.0-6g	.125 (3.2) .059 (1.5)	.118 (3.0) .094 (2.4)	1.017 (25.8) 1.007 (25.6)	.955 (24.3) .945 (24.0)
D	15	1.637 (41.6) 1.614 (41.0)	1.519 (38.6) 1.484 (37.7)	1.065 (27.1) 1.056 (26.8)	1.035 (26.3) 1.015 (25.8)	M28 X 1.0-6g	.125 (3.2) .059 (1.5)	.118 (3.0) .094 (2.4)	1.144 (29.1) 1.134 (28.8)	1.084 (27.5) 1.074 (27.3)
E	17	1.763 (44.8) 1.740 (44.2)	1.641 (41.7) 1.606 (40.8)	1.190 (30.2) 1.181 (30.0)	1.157 (29.4) 1.137 (28.9)	M32 X 1.0-6g	.125 (3.2) .059 (1.5)	.118 (3.0) .094 (2.4)	1.271 (32.3) 1.261 (32.0)	1.208 (30.7) 1.198 (30.4)
F	19	1.948 (49.5) 1.925 (48.9)	1.830 (46.5) 1.795 (45.6)	1.316 (33.4) 1.306 (33.2)	1.283 (32.6) 1.263 (32.1)	M35 X 1.0-6g	.125 (3.2) .059 (1.5)	.149 (3.8) .125 (3.2)	1.394 (35.4) 1.384 (35.2)	1.333 (33.9) 1.323 (33.6)
G	21	2.074 (52.7) 2.051 (52.1)	1.956 (49.7) 1.921 (48.8)	1.441 (36.6) 1.431 (36.3)	1.409 (35.8) 1.389 (35.3)	M38 X 1.0-6g	.125 (3.2) .059 (1.5)	.149 (3.8) .125 (3.2)	1.517 (38.5) 1.507 (38.3)	1.459 (37.1) 1.449 (36.8)
H	23	2.200 (55.9) 2.177 (55.3)	2.078 (52.8) 2.043 (51.9)	1.565 (39.8) 1.556 (39.5)	1.535 (39.0) 1.515 (38.5)	M41 X 1.0-6g	.125 (3.2) .059 (1.5)	.149 (3.8) .125 (3.2)	1.644 (41.8) 1.634 (41.5)	1.580 (40.1) 1.570 (39.9)
J	25	2.326 (59.1) 2.299 (58.4)	2.204 (56.0) 2.169 (55.1)	1.692 (43.0) 1.681 (42.7)	1.657 (42.1) 1.637 (41.6)	M44 X 1.0-6g	.125 (3.2) .059 (1.5)	.149 (3.8) .125 (3.2)	1.769 (44.9) 1.759 (44.7)	1.709 (43.4) 1.699 (43.2)

240-384W
MIL-DTL-38999 Series IV Filter Connector
Wall Mount Receptacle

240	-	384	W	M	15-35	P	S	P	C	H	N

Filter Connector Product Code: 240

MIL-DTL-38999 Series IV: 384

Shell Style: *W - Wall Mount*

Insert Arrangement: *IAW MIL-STD-1560*

Connector Class: *(See Table III)*

Contact Gender: *P - Pin*, *S - Socket*

Termination: *P - PC Tail*, *S - Solder Cup*

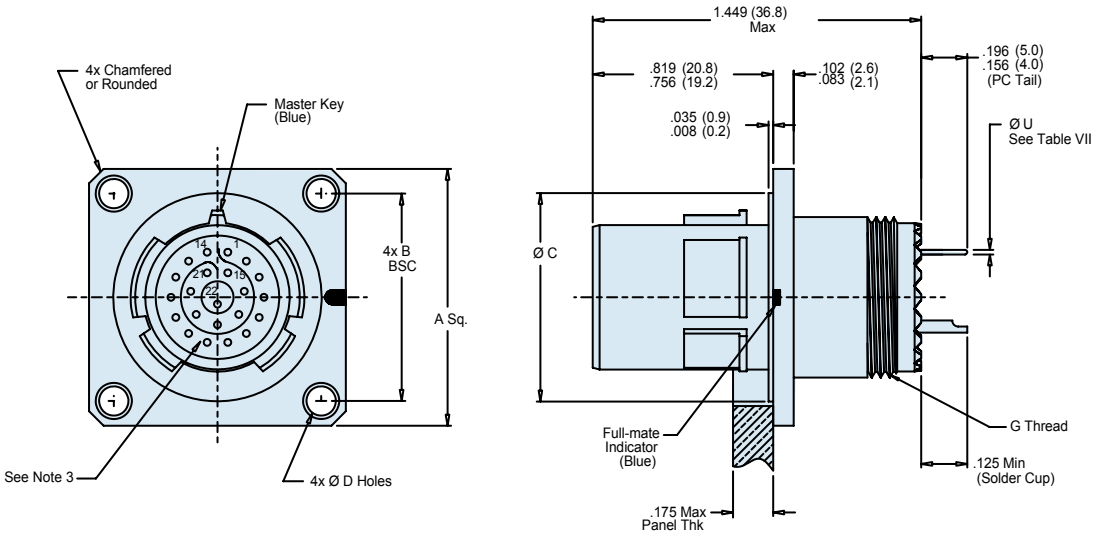
Filter Type: *(See Table VI)*

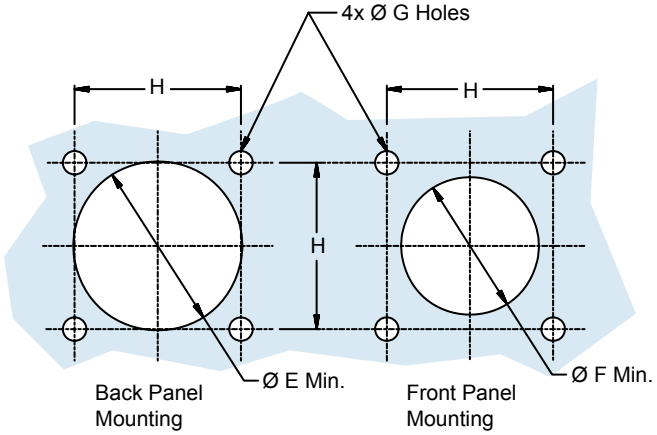
Capacitance: *(See Table IV)*

Alternate Key Position: Per MIL-DTL-38999 *A, B, C, D, K, L, M, R, U*, *N = Normal*

Flange Mounting Style: *H - Round Holes, Chamfered*, *C - Clinch Nuts (4-40 UNC)*, *M - Metric Clinch Nuts (M3)*

***W** - Wall Mount*





240-384W
MIL-DTL-38999 Series IV Filter Connector
Wall Mount Receptacle

TABLE I: DIMENSIONS

SHELL SIZE CODE	SHELL SIZE	A Sq	B BSC	C Dia	D Dia	Ø E Min.	Ø F Min.	G Thread Metric	Ø H Holes	J
B	11	1.051 1.008	.812	.793 .778	.138 .122	.796	.625	M15X1.0-6g 0.100R	.133 .123	.817 .807
C	13	1.145 1.102	.906	.919 .904	.138 .122	.922	.750	M18X1.0-6g 0.100R	.133 .123	.911 .901
D	15	1.240 1.197	.969	1.044 1.029	.138 .122	1.047	.906	M22X1.0-6g 0.100R	.133 .123	.973 .963
E	17	1.334 1.291	1.062	1.170 1.155	.138 .122	1.219	1.016	M25X1.0-6g 0.100R	.133 .123	1.067 1.057
F	19	1.460 1.417	1.156	1.294 1.279	.138 .122	1.297	1.142	M28X1.0-6g 0.100R	.133 .123	1.161 1.151
G	21	1.583 1.539	1.250	1.419 1.404	.138 .122	1.422	1.266	M31X1.0-6g 0.100R	.133 .123	1.255 1.245
H	23	1.709 1.665	1.375	1.544 1.529	.157 .142	1.547	1.375	M34X1.0-6g 0.100R	.159 .149	1.380 1.370
J	25	1.835 1.791	1.500	1.670 1.654	.157 .142	1.672	1.484	M37X1.0-6g 0.100R	.159 .149	1.505 1.495

TABLE VII

Contact Size	PC Tail Diameter (ØU)
22D	.018/.021 (0.5/0.5)
20	.029/.031 (0.7/.08)
16	.038/.042 (1.0/1.1)

TABLE III: CONNECTOR CLASS

SYM	CLASS	MATERIAL	FINISH DESCRIPTION
M	Environmental	Aluminum	Electroless Nickel
MT	Environmental	Aluminum	Nickel Fluorocarbon Polymer (Ni-PTFE)
NF	Environmental	Aluminum	Cadmium O.D. Over Electroless Nickel
P	Environmental	Stainless Steel	Electro-Deposited Nickel
ZN	Environmental	Aluminum	Zinc-Nickel Over Electroless Nickel
H2	Hermetic	Stainless Steel	Electroless Nickel

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
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

* DWV - 500 VDC Min. Filter Class X, Y & Z are 250 DWV Min.

TABLE V

SYM	Flange Mounting
N	Not Applicable
H	Chamfered Holes
C	Clinch Nut (4-40 UNC)

TABLE VI

SYM	Filter Type
P	PI-Section
C	C Only

TABLE III: CONNECTOR CLASS

PATTERN	22D	20	16	12	10
11-2			2		
11-4		4			
11-5		5			
11-35	13				
11-98		6			
11-99		7			
13-4			4		
13-8		8			
13-35	22				
13-98		10			
15-5			5		
15-18		18			
15-35	37				
15-97		8	4		
17-6				6	
17-8			8		
17-26		26			
17-35	55				
19-11			11		
19-31		32			
19-35	66				
21-11				11	
21-16			16		
21-35	79				
21-39		37	2		
21-41		41			
23-21			21		
23-35	100				
23-55		55			
25-4		48	8		
25-19				19	
25-29			29		
25-35	128				
25-43		23	20		
25-61		61			

Glenair MIL-DTL-26482 Series II Type Filter Connector with Bayonet Coupling

Master How to Order • Part Number Breakdown

MIL-DTL-26482 Series II

Insert Arrangement
Per MIL-STD-1669

Capacitance (See Table II)

Filter Connector Product Code

Connector Class (See Table I)

Termination
S *- Solder Cup*
P *- PC Tail*

Alternate Key Position
W, X, Y, Z, N = Normal

240	-	264	J	P	16-26	P	S	P	A	C	N

Shell Style
W *- Wall Mount*
J *- Jam Nut*
A *- Connector Adapter*

Contact Gender
P *- Pin*
S *- Socket*
PS *- Conn. Adapter (Pins, Plug Side)*
SP *- Conn. Adapter (Sockets, Plug Side)*

Flange Mounting Style
N *- Not Applicable/Mfgs. Option*
H *- Chamfered Holes*
C *- Clinch Nuts (4-40 UNC)*
M *- Metric Clinch Nuts (M3)*

Filter Type
P *- Pi Circuit*
C *- C Circuit*

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

TABLE I: CONNECTOR CLASS

SYM	CLASS	MATERIAL	FINISH DESCRIPTION
M	Environmental	Aluminum	Electroless Nickel
MT	Environmental	Aluminum	Ni-PTFE *1000 Hour Grey™* Nickel Fluorocarbon Polymer
NF	Environmental	Aluminum	Cadmium O.D. Over Electroless Nickel
P	Environmental	Stainless Steel	Electro-Deposited Nickel
ZN	Environmental	Aluminum	Zinc-Nickel Over Electroless Nickel
H2	Hermetic	Stainless Steel	Electroless Nickel

TABLE II: 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
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E	3,300 - 5,000	1,650 - 2,500
F	800 - 1,300	400 - 650
G	400 - 600	200 - 300

* Reduced DWV – Please consult factory.

CAGE CODE 06324

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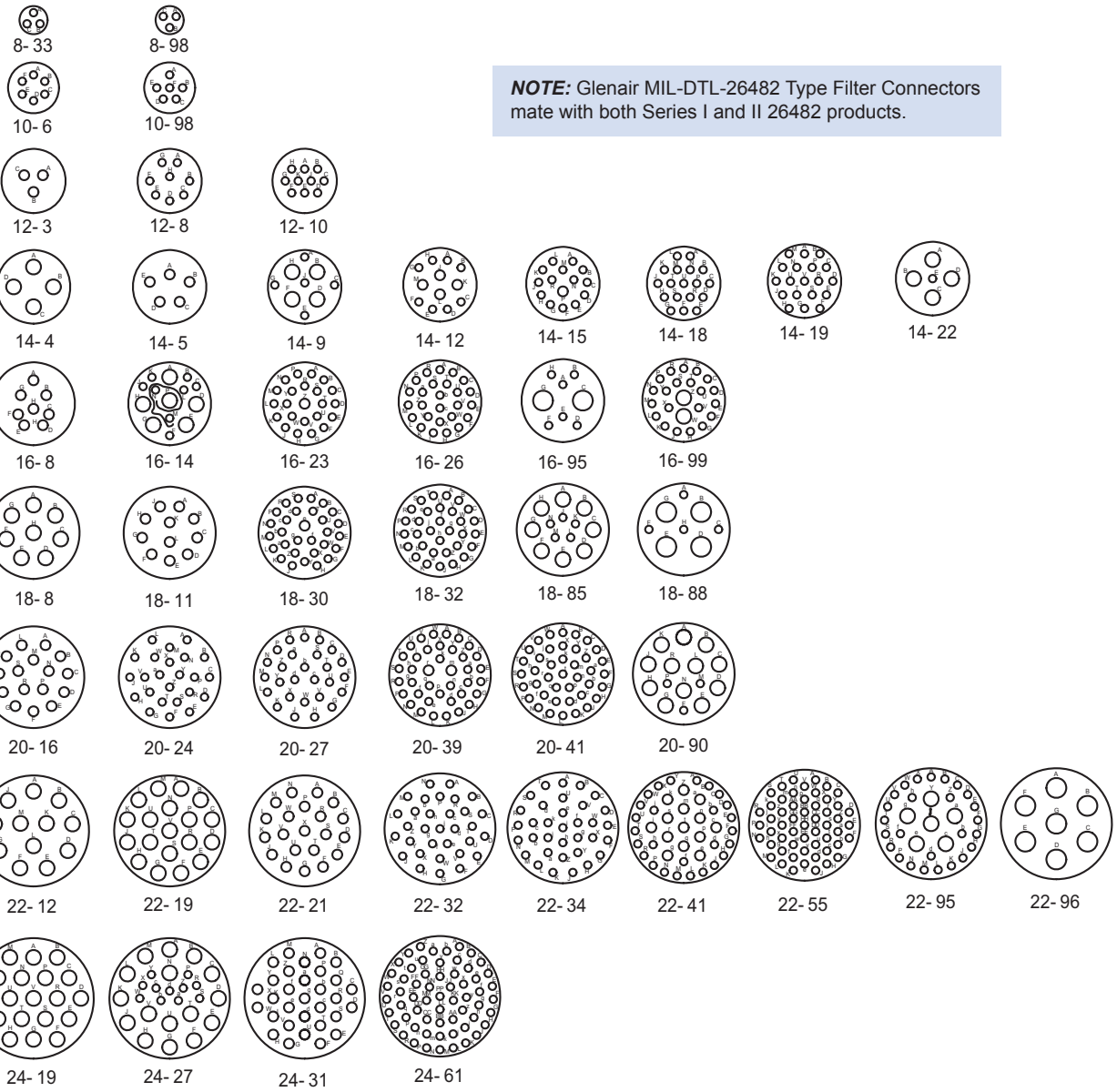
Glenair MIL-DTL-26482 Series II Type Filter Connector with Bayonet Coupling

Reference Information



NOTE: Glenair MIL-DTL-26482 Type Filter Connectors mate with both Series I and II 26482 products.

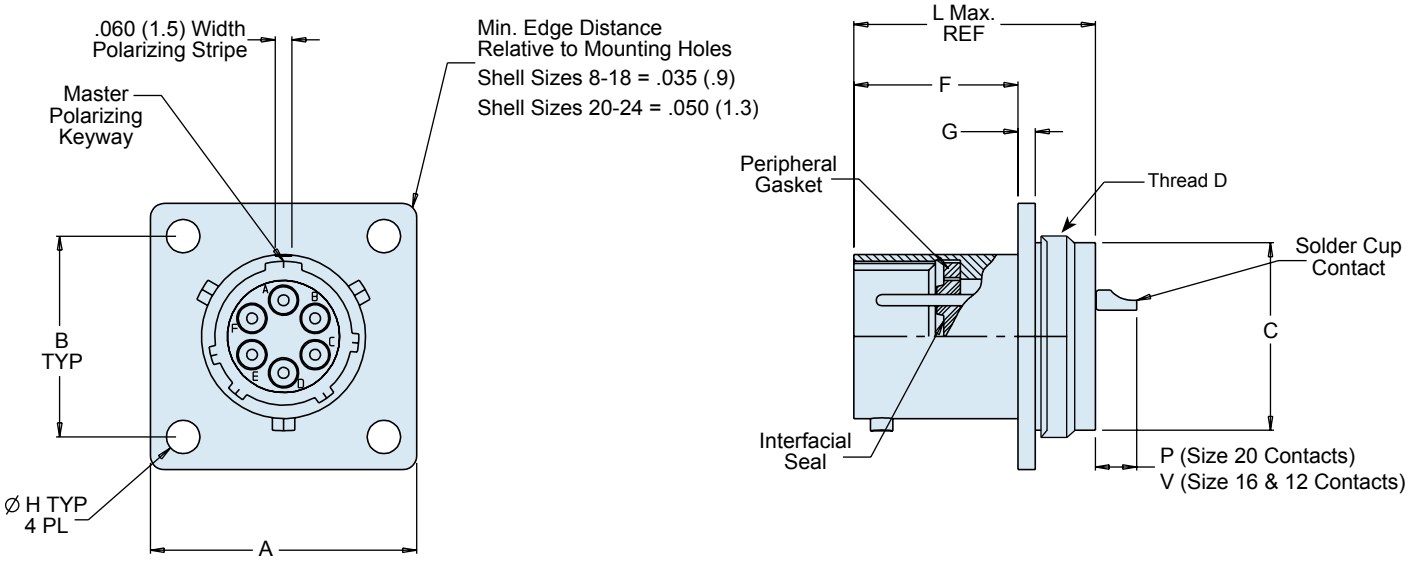
APPLICATION NOTES

1. Materials/Finishes: Shells, Barrel, Coupling Nut, Jam Nut - See Table I
   Insulators - high grade rigid dielectric/N.A.
   Seals - Flourosilicone
   PC Tail & Solder Cup contacts: 50µ" Gold over 50µ" Nickel
2. Assembly to be identified with Glenair's name, part number, and date code - space permitting.
3. Insert Arrangement in accordance with MIL-STD-1669.
   (Arrangement shown for reference only)
4. EMI Circular Filter Receptacle connector designed to meet requirements of MIL-C-26482.
5. All contacts to have identical filter value. Other filter arrangements available, contact factory.
6. Electrical Ratings: DWV- 500 VDC; Standard Operating Voltage 200 Volts DC; Current Rating 5 Amps (size 22);
7. Insulation Resistance: 5000 MegOhms Min. at 200 VDC.
8. Operating Temperature -55°C to +125°C (Env Class Connectors)
9. Other filter styles (C-L, L-C, Unbalanced PI, Multi-Stage, Multi-Value) are available, please consult the factory.
10. Metric Dimensions (mm) are indicated in parentheses.

240-264W
MIL-DTL-26482 Series II Type
Wall Mount Receptacle

240	-	264	W	P	16-26	P	S	P	A	H	N

- **Filter Connector Product Code**
- **MIL-C-26482 Series II**
- **Insert Arrangement** *Per MIL-STD-1669*
- **Contact Gender** *P - Pin* *S - Socket*
- **Filter Type** *P - Pi Circuit* *C - C Circuit*
- **Capacitance** *(See Table II)*
- **Alternate Key Position** *W, X, Y, Z, N = Normal*
- **Shell Style** *W - Wall Mount*
- **Connector Class** *(See Table I)*
- **Termination** *S - Solder Cup*
- **Flange Mounting Style** *H - Chamfered Holes* *C - Clinch Nuts (4-40 UNC)* *M - Metric Clinch Nuts (M3)*



***W** - Wall Mount*

TABLE I: CONNECTOR CLASS

SYM	CLASS	MATERIAL	FINISH DESCRIPTION
M	Environmental	Aluminum	Electroless Nickel
MT	Environmental	Aluminum	Ni-PTFE *1000 Hour Grey™* Nickel Fluorocarbon Polymer
NF	Environmental	Aluminum	Cadmium O.D. Over Electroless Nickel
P	Environmental	Stainless Steel	Electro-Deposited Nickel
ZN	Environmental	Aluminum	Zinc-Nickel Over Electroless Nickel
H2	Hermetic	Stainless Steel	Electroless Nickel

TABLE II: CAPACITOR ARRAY CODE CAPACITANCE RANGE

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

* Reduced DWV – Please consult factory.

TABLE III: DIMENSIONS

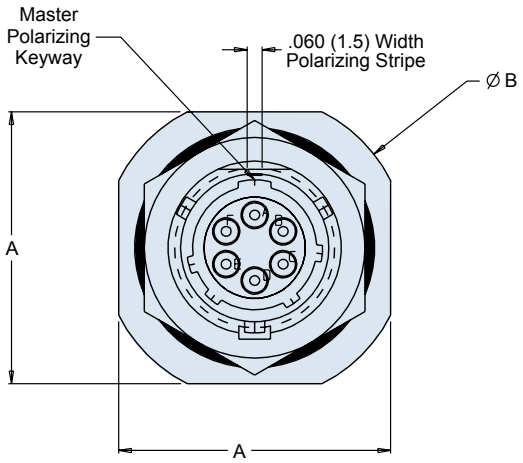
SHELL SIZE	A	B	C ⌀ MOUNTING LOCATOR	D THREAD (CLASS 2)	F	G	H	L (Max)	P	V	PANEL CUT-OUT ⌀	MAX. WEIGHT (Lbs.)
8	.828 (21.0)	.594 (15.1)	.563 (14.3) .557 (14.1)	.500-20 UNF	.431 (10.9) .462 (11.7)	.078 (2.0) .046 (1.2)	.120 (3.0)	1.38 (35.1)	.178 (4.5) .188 (4.8)	.248 (6.3) .188 (4.8)	.570 (14.5)	.038
10	.954 (24.2)	.719 (18.3)	.673 (17.1) .667 (16.9)	.625-24 UNEF		.078 (2.0) .046 (1.2)	.120 (3.0)	1.38 (35.1)	.178 (4.5) .188 (4.8)	.248 (6.3) .188 (4.8)	.680 (17.3)	.044
12	1.047 (26.6)	.812 (20.6)	.782 (19.9) .776 (19.7)	.750-20 UNEF		.078 (2.0) .046 (1.2)	.120 (3.0)	1.38 (35.1)	.178 (4.5) .188 (4.8)	.248 (6.3) .188 (4.8)	.789 (20.0)	.052
14	1.141 (29.0)	.906 (23.0)	.907 (23.0) .901(22.9)	.875-20 UNEF		.078 (2.0) .046 (1.2)	.120 (3.0)	1.38 (35.1)	.178 (4.5) .188 (4.8)	.248 (6.3) .188 (4.8)	.914 (23.2)	.070
16	1.234 (31.3)	.969 (24.6)	1.032 (26.2) 1.026 (26.1)	1.000-20 UNEF		.078 (2.0) .046 (1.2)	.120 (3.0)	1.38 (35.1)	.178 (4.5) .188 (4.8)	.248 (6.3) .188 (4.8)	1.039 (6.4)	.085
18	1.328 (33.7)	1.062 (27.0)	1.157 (29.4) 1.151 (29.2)	1.0625-18 UNEF		.078 (2.0) .046 (1.2)	.120 (3.0)	1.38 (35.1)	.178 (4.5) .188 (4.8)	.248 (6.3) .188 (4.8)	1.164 (29.6)	.098
20	1.453 (36.9)	1.156 (29.4)	1.251 (31.8) 1.245 (31.6)	1.1875-18 UNEF	.556 (14.1) .587 (14.9)	.110 (2.8) .078 (2.0)	.120 (3.0)	1.44 (36.6)	.178 (4.5) .188 (4.8)	.248 (6.3) .188 (4.8)	1.258 (32.0)	.110
22	1.578 (40.1)	1.250 (31.8)	1.376 (35.0) 1.371 (34.8)	1.3125-18 UNEF		.110 (2.8) .078 (2.0)	.120 (3.0)	1.44 (36.6)	.178 (4.5) .188 (4.8)	.216 (5.5) .156 (4.0)	1.383 (35.1)	.150
24	1.703 (43.3)	1.375 (34.9)	1.501 (38.1) 1.495 (38.0)	1.4375-18 UNEF	.589 (15.0) .620 (15.7)	.110 (2.8) .078 (2.0)	.147 (3.7)	1.44 (36.6)	.178 (4.5) .188 (4.8)	.216 (5.5) .156 (4.0)	1.508 (38.3)	.280

240-264J
MIL-DTL-26482 Series II Type Filter Connector
Jam Nut Receptacle

MIL-C-26482 Series II	Filter Connector Product Code	Shell Style	Connector Class	Insert Arrangement	Contact Gender	Termination	Filter Type	Capacitance	Flange Mounting Style	Alternate Key Position
240	- 264	J	P	16-26	P	S	P	A	N	N

- **Shell Style:** *J - Jam Nut*
- **Connector Class:** *(See Table I)*
- **Insert Arrangement:** *Per MIL-STD-1669*
- **Contact Gender:** *P - Pin*, *S - Socket*
- **Termination:** *S - Solder Cup*
- **Filter Type:** *P - Pi Circuit*, *C - C Circuit*
- **Capacitance:** *(See Table II)*
- **Flange Mounting Style:** *N - Not Applicable*
- **Alternate Key Position:** *W, X, Y, Z, N = Normal*

J - Jam Nut



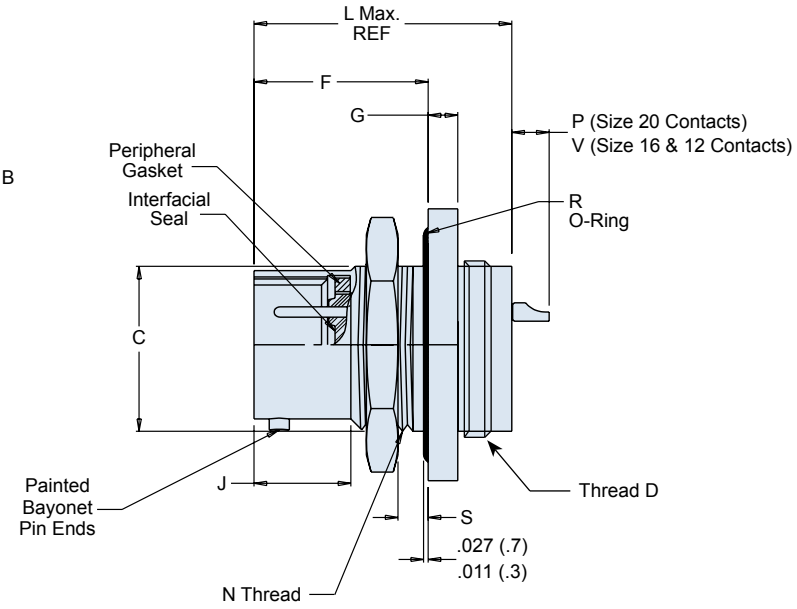


TABLE II: CAPACITOR ARRAY CODE CAPACITANCE RANGE

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

* Reduced DWV – Please consult factory.

TABLE I: CONNECTOR CLASS

SYM	CLASS	MATERIAL	FINISH DESCRIPTION
M	Environmental	Aluminum	Electroless Nickel
MT	Environmental	Aluminum	Ni-PTFE *1000 Hour Grey™* Nickel Fluorocarbon Polymer
NF	Environmental	Aluminum	Cadmium O.D. Over Electroless Nickel
P	Environmental	Stainless Steel	Electro-Deposited Nickel
ZN	Environmental	Aluminum	Zinc-Nickel Over Electroless Nickel
H2	Hermetic	Stainless Steel	Electroless Nickel

CAGE CODE 06324

Printed in U.S.A.

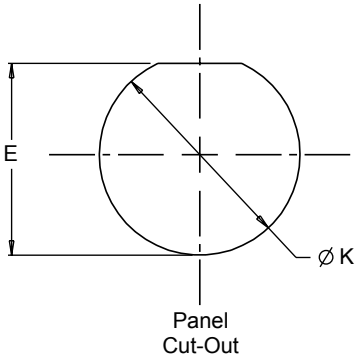


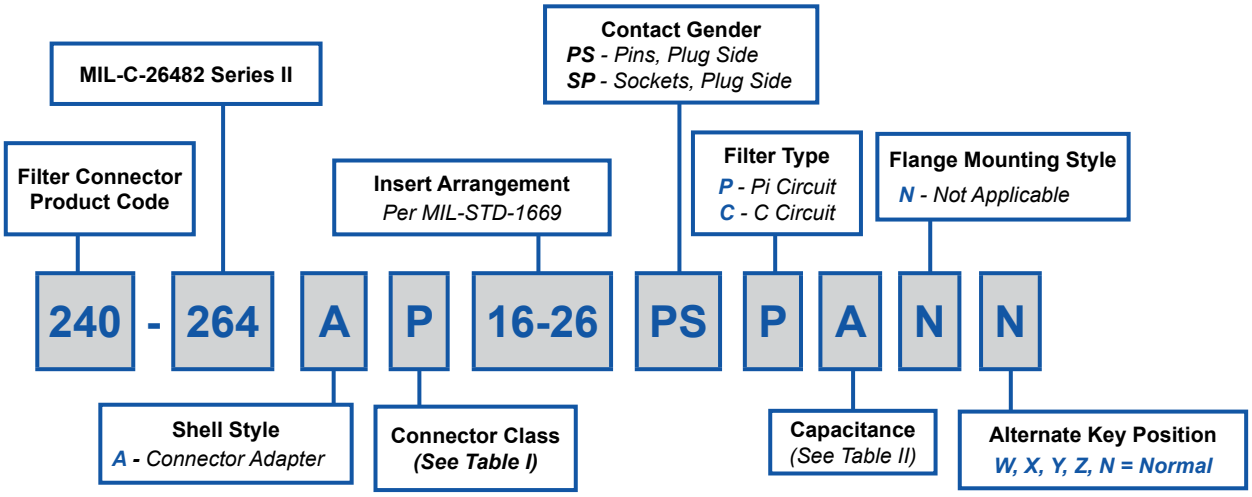
TABLE III: DIMENSIONS

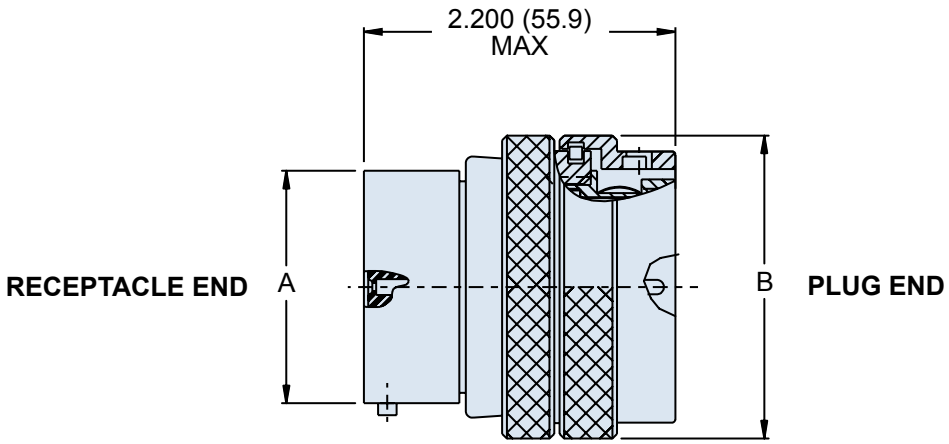
SHELL SIZE	A +.000 (0) -.031 (.8) LENGTH	B +.000 (0) -.031 (.8) ACROSS FLANGE CORNER	C +.000 (0) -.010 (.3) MTG. FLAT	D THREAD (CLASS 2)	E PANEL FLAT LOCATION	F MOUNTING FLANGE LOCATION	G MOUNTING FLANGE THINCKNESS
8	.954 (24.2)	1.078 (27.4)	.530 (13.5)	.500-20 UNF	.536(13.6)	.707 (18.0) .691 (17.6)	.113 (2.9) .097 (2.5)
10	1.078 (27.4)	1.203 (30.6)	.655 (16.6)	.625-24 UNEF	.661 (16.8)	.707 (18.0) .691 (17.6)	.113 (2.9) .097 (2.5)
12	1.266 (32.2)	1.391 (35.3)	.818 (20.8)	.750-20 UNEF	.824 (20.9)	.707 (18.0) .691 (17.6)	.113 (2.9) .097 (2.5)
14	1.391 (35.3)	1.516 (38.5)	.942 (23.9)	.875-20 UNEF	.948 (24.1)	.707 (18.0) .691 (17.6)	.113 (2.9) .097 (2.5)
16	1.516 (38.5)	1.641 (41.7)	1.062 (27.0)	1.000-20 UNEF	1.072 (27.2)	.707 (18.0) .691 (17.6)	.113 (2.9) .097 (2.5)
18	1.641 (41.7)	1.766 (44.9)	1.191 (30.3)	1.0625-18 UNEF	1.197 (30.4)	.707 (18.0) .691 (17.6)	.113 (2.9) .097 (2.5)
20	1.828 (46.4)	1.954 (49.6)	1.316 (33.4)	1.1875-18 UNEF	1.322 (33.6)	.772 (19.6) .754 (19.2)	.148 (3.8) .128 (3.3)
22	1.954 (49.6)	2.078 (52.8)	1.441 (36.6)	1.3125-18 UNEF	1.447 (36.8)	.772 (19.6) .754 (19.2)	.148 (3.8) .128 (3.3)
24	2.078 (52.8)	2.203 (56.0)	1.566 (39.8)	1.4375-18 UNEF	1.572 (39.9)	.803 (20.4) .785 (20.0)	.148 (3.8) .128 (3.3)

TABLE III: DIMENSIONS (CONTINUED)

SHELL SIZE	J +/- .010 (.3) TO THREAD CHAMFER	K +.010 (.3) -.005 (.1) PANEL MOUNTING HOLE	L OVERALL LENGTH	N UNEF-2A MOUNTING THREAD	P	S PANEL THICK-NESS MIN.	S MAX.	V	MAX WEIGHT (Lbs.)
8	.368 (9.3)	.572 (14.5)	1.38 (35.1)	.5625-24	.134 (3.4) .074 (1.9)	.062 (1.6)	.187 (4.8)	.204 (5.2) .144 (3.7)	.0430 (1.1)
10	.368 (9.3)	.697 (17.7)	1.38 (35.1)	.6875-24	.134 (3.4) .074 (1.9)	.062 (1.6)	.187 (4.8)	.204 (5.2) .144 (3.7)	.0610 (1.5)
12	.368 (9.3)	.885 (22.5)	1.38 (35.1)	.875-20	.134 (3.4) .074 (1.9)	.062 (1.6)	.187 (4.8)	.204 (5.2) .144 (3.7)	.0880 (2.2)
14	.368 (9.3)	1.010 (25.7)	1.38 (35.1)	1.000-20	.134 (3.4) .074 (1.9)	.062 (1.6)	.187 (4.8)	.204 (5.2) .144 (3.7)	.1100 (2.8)
16	.368 (9.3)	1.135 (28.8)	1.38 (35.1)	1.125-18	.134 (3.4) .074 (1.9)	.062 (1.6)	.187 (4.8)	.204 (5.2) .144 (3.7)	.1310 (3.3)
18	.368 (9.3)	1.260 (32.0)	1.38 (35.1)	1.250-18	.134 (3.4) .074 (1.9)	.062 (1.6)	.187 (4.8)	.204 (5.2) .144 (3.7)	.1720 (4.4)
20	.368 (9.3)	1.385 (35.2)	1.44 (36.6)	1.375-18	.099 (2.5) .039 (1.0)	.062 (1.6)	.250 (6.4)	.169 (4.3) .109 (2.8)	.2110 (5.4)
22	.368 (9.3)	1.510 (38.4)	1.44 (36.6)	1.500-18	.099 (2.5) .039 (1.0)	.062 (1.6)	.250 (6.4)	.169 (4.3) .109 (2.8)	.2420 (6.1)
24	.395 (10.0)	1.635 (41.5)	1.44 (36.6)	1.625-18	.099 (2.5) .039 (1.0)	.062 (1.6)	.250 (6.4)	.169 (4.3) .109 (2.8)	.2930 (7.4)

240-264A
Glenair MIL-DTL-26482 Series II Type
Connector Adapter





A - Connector Adapter

TABLE I: CONNECTOR CLASS			
SYM	**CLASS**	**MATERIAL**	**FINISH DESCRIPTION**
M	Environmental	Aluminum	Electroless Nickel
MT	Environmental	Aluminum	Ni-PTFE *1000 Hour Grey™* Nickel Fluorocarbon Polymer
NF	Environmental	Aluminum	Cadmium O.D. Over Electroless Nickel
P	Environmental	Stainless Steel	Electro-Deposited Nickel
ZN	Environmental	Aluminum	Zinc-Nickel Over Electroless Nickel
H2	Hermetic	Stainless Steel	Electroless Nickel

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

* Reduced DWV – Please consult factory.

TABLE III: SHELL SIZE		
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)

Glenair MIL-DTL-83723 Series III Type Filter Connector with Threaded Coupling

Master How to Order • Part Number Breakdown

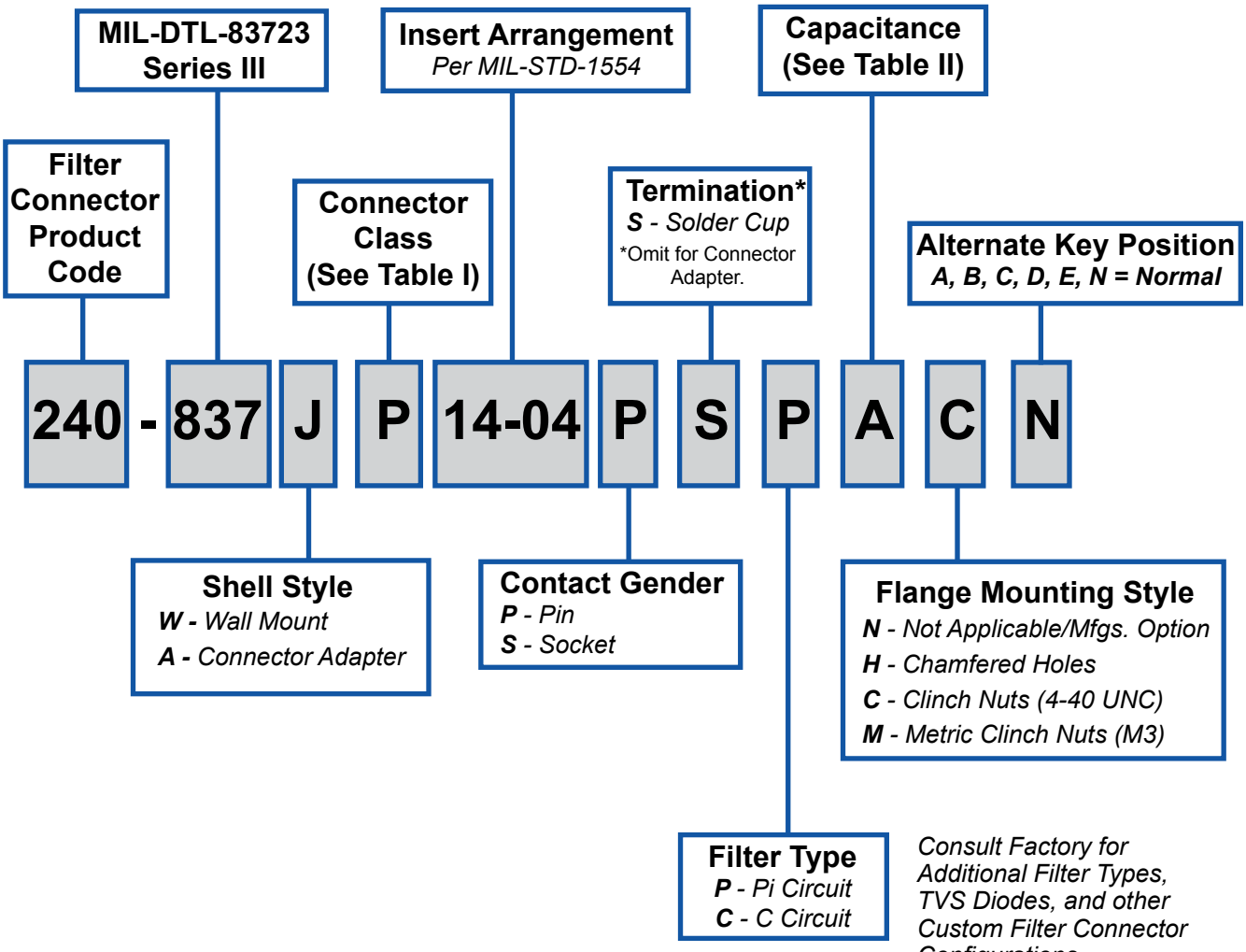


TABLE II: CAPACITOR ARRAY CODE CAPACITANCE RANGE

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

* Reduced DWV – Please consult factory.

TABLE I: CONNECTOR CLASS

SYM	CLASS	MATERIAL	FINISH DESCRIPTION
M	Environmental	Aluminum	Electroless Nickel
MT	Environmental	Aluminum	Ni-PTFE *1000 Hour Grey™* Nickel Fluorocarbon Polymer
NF	Environmental	Aluminum	Cadmium O.D. Over Electroless Nickel
P	Environmental	Stainless Steel	Electro-Deposited Nickel
ZN	Environmental	Aluminum	Zinc-Nickel Over Electroless Nickel
H2	Hermetic	Stainless Steel	Electroless Nickel

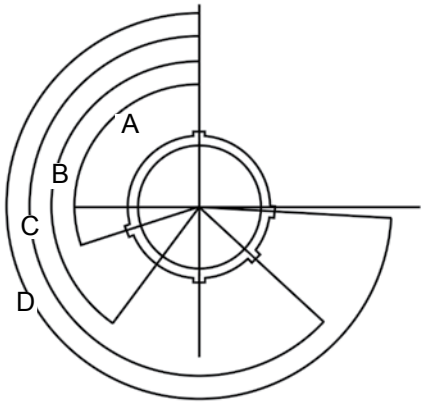
ALTERNATE KEYWAY POSITIONS

	Size 8				Size 10				Sizes 12 thru 24				Insert Position
	A°	B°	C°	D°	A°	B°	C°	D°	A°	B°	C°	D°	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

INSERT ARRANGEMENTS

Shell Size Design	Insert Arrangement Dash No.	Contact Size: Quantity		
		20	16	12
08	08-02	2		
	08-03	3		
	08-98	3		
10	10-05	5		
	10-02	2		
	10-06	6		
	10-20	2		
12	12-03		3	
	12-12	12		
14	14-04		7	4
	14-07		3	
	14-12	9		
	14-15	15		
16	16-10		10	
	16-24	24		
18	18-08			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	
	22-35	55		
24	24-19			19
	24-43	23	20	
	24-57	55		2
	24-61	61		

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.

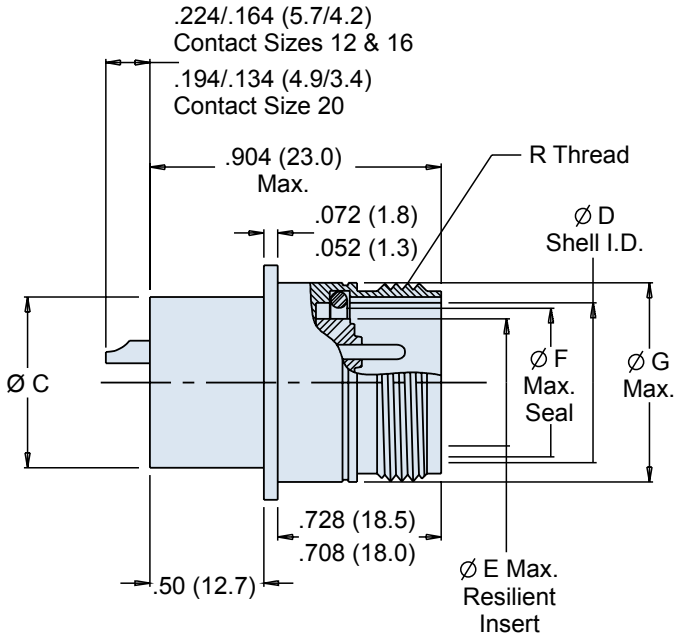


FACE VIEW RECEPTACLE
POSITION N, 6 THRU 10

240-837W
MIL-DTL-83723/83 Series III Filter Receptacle
Wall Mount Receptacle

240	-	837	W	P	14-12	P	S	P	A	C	N

- **Filter Connector Product Code**: 240
- **MIL-DTL-83723/83 Series III**: 837
- **Shell Style**: W - Wall Mount
- **Connector Class**: P (See Table I)
- **Insert Arrangement**: 14-12 (Per MIL-STD-1554)
- **Contact Gender**: P - Pins; S - Socket
- **Filter Type**: P - Pi Circuit; C - C Circuit
- **Termination**: S - Solder Cup
- **Capacitance**: A (See Table V)
- **Flange Mounting Style**: C
  - H - Chamfered Holes
  - C - Clinch Nuts (4-40 UNC)
  - M - Metric Clinch Nuts (M3)
- **Alternate Key Position**: N (A, B, C, D, E, N = Normal)



W - Wall Mount

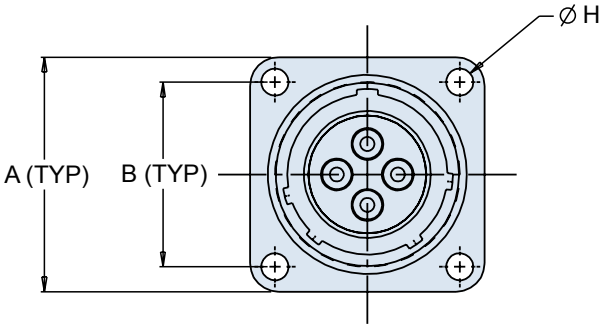


TABLE I: CONNECTOR CLASS			
SYM	CLASS	MATERIAL	FINISH DESCRIPTION
M	Environmental	Aluminum	Electroless Nickel
MT	Environmental	Aluminum	Nickel Fluorocarbon polymer (Ni-PTFE)
NF	Environmental	Aluminum	Cadmium O.D. Over Electroless Nickel
P	Environmental	Stainless Steel	Electro-Deposited Nickel
ZN	Environmental	Aluminum	Zinc-Nickel Over Electroless Nickel
H2	Hermetic	Stainless Steel	Electroless Nickel

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

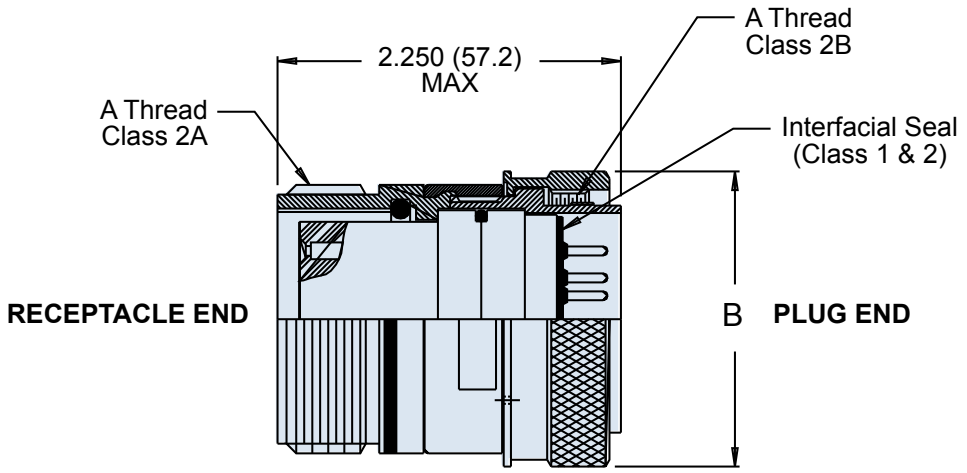
* Reduced DWV – Please consult factory.

TABLE III: DIMENSIONS

SHELL SIZE	A	B	C ∅	D ∅ SHELL I.D.	E ∅ RESILIENT INSERT	F ∅ MAX. SEAL	G ∅ MAX.	H ∅ THROUGH 4 PL	R COUPLING THREAD UNEF-2A	PANEL CUT-OUT ∅
8	.812 (20.6)	.594 (15.1)	.500 (12.7)	.418 (10.6) .413 (10.5)	.290 (7.4)	.394 (10.0)	.562 (14.3)	.125 (3.2) .116 (2.9)	.562-24	.572 (14.5)
10	.937 (23.8)	.719 (18.3)	.560 (14.2)	.535 (13.6) .530 (13.5)	.388 (9.9)	.515 (13.1)	.696 (17.7)	.125 (3.2) .116 (2.9)	.688-24	.706 (17.9)
12	1.031 (26.2)	.812 (20.6)	.750 (19.1)	.705 (17.9) .700 (17.8)	.558 (14.2)	.685 (17.4)	.875 (22.2)	.125 (3.2) .116 (2.9)	.875-20	.885 (22.5)
14	1.125 (28.6)	.906 (23.0)	.810 (20.6)	.774 (19.7) .769 (19.5)	.627 (15.9)	.754 (19.2)	.936 (23.8)	.125 (3.2) .116 (2.9)	.938-20	.946 (24.0)
16	1.250 (31.8)	.969 (24.6)	.930 (23.6)	.901 (22.9) .896 (22.8)	.772 (19.6)	.881 (22.4)	1.062 (27.0)	.125 (3.2) .116 (2.9)	1.062-18	1.072 (27.2)
18	1.343 (34.1)	1.062 (27.0)	1.060 (26.9)	1.007 (25.6) 1.002 (25.5)	.860 (21.8)	.987 (25.1)	1.187 (30.1)	.125 (3.2) .116 (2.9)	1.188-18	1.197 (30.4)
20	1.437 (36.5)	1.156 (29.4)	1.180 (30.0)	1.132 (28.8) 1.125 (28.6)	.985 (25.0)	1.112 (28.2)	1.312 (33.3)	.125 (3.2) .116 (2.9)	1.312-18	1.322 (33.6)
22	1.562 (39.7)	1.250 (31.8)	1.310 (33.3)	1.257 (31.9) 1.252 (31.8)	1.110 (28.2)	1.237 (31.4)	1.437 (36.5)	.125 (3.2) .116 (2.9)	1.438-18	1.447 (36.8)
24	1.703 (43.3)	1.375 (34.9)	1.430 (36.3)	1.382 (35.1) 1.377 (35.0)	1.235 (31.4)	1.362 (34.6)	1.562 (39.7)	.154 (3.9) .145 (3.7)	1.562-18	1.572 (39.9)

240-837A
Glenair MIL-DTL-83723 Series III Type
Connector Adapter

240	-	837	A	P	14-04	PS	P	A	N	N
Filter Connector Product Code		MIL-DTL-83723 Series III	Shell Style *A - Connector Adapter*	Connector Class *(See Table I)*	Insert Arrangement *Per MIL-STD-1669*	Contact Gender *PS - Pins, Plug Side* *SP - Sockets, Plug Side*	Filter Type *P - Pi Circuit* *C - C Circuit*	Capacitance *(See Table II)*	Flange Mounting Style *N - Not Applicable*	Alternate Key Position *A, B, C, D, E, N = Normal*



A - Connector Adapter

TABLE I: CONNECTOR CLASS			
SYM	**CLASS**	**MATERIAL**	**FINISH DESCRIPTION**
M	Environmental	Aluminum	Electroless Nickel
MT	Environmental	Aluminum	Nickel Fluorocarbon polymer (Ni-PTFE)
NF	Environmental	Aluminum	Cadmium O.D. Over Electroless Nickel
P	Environmental	Stainless Steel	Electro-Deposited Nickel
ZN	Environmental	Aluminum	Zinc-Nickel Over Electroless Nickel
H2	Hermetic	Stainless Steel	Electroless Nickel

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

* Reduced DWV – Please consult factory.

TABLE III: DIMENSIONS		
SHELL SIZE	**A THREAD**	**B DIA. MAX**
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)

Too Fat to Fly?

Maybe. But Not Too Big To Be Saved by a Mouse.

One of the biggest challenges facing designers of armored cars, MRAP's and other rapid deployment combat vehicles is the requirement to build systems which are transportable by air. In critical weight-reduction applications such as these, literally every ounce counts. That's why Glenair invented the Series 80 "Mighty Mouse," an ultraminiature connector with all the performance characteristics of standard Mil-Spec products, but just half the size and weight. The "Mighty Mouse" is being used in ground, air and sea applications where extreme levels of weight reduction are not just an option but a necessity. So, if your system is too fat to fly, consider a switch to the Glenair "Mighty Mouse": Phenomenal Performance, Itty-Bitty Package.

Glenair®

1211 Air Way
Glendale, California 91201-2497
Telephone: 818-247-6000 · Facsimilie: 818-500-9912 · EMail: sales@glenair.com

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PRODUCT FEATURES

- Compact Weight-Saving Design with #23 Contacts
- C and Pi Circuit Filters from 400 pF to 56000 pF
- 3 Through 85 Contacts
- Low-Pass Multilayer Ceramic Planar Array
- PC Tail, Solder Cup and Crimp-Contact Versions
- Fully Sealed with Thermally Conductive Epoxy
- Space-Grade Bake-Out Processing Available
- Threaded, Bayonet and Push-Pull Versions

Ultra Small and Lightweight EMI/EMP Filter Connectors

Glenair Series 80 "Mighty Mouse"

Glenair's filtered Series 80 "Mighty Mouse" connector family provide significant size and weight savings compared to larger "MS" connectors. The high density #23 contacts provide almost double the density of D38999. Designed to meet stringent aerospace performance requirements, these connectors are offered with standard low pass Pi or C circuit filter arrays, or with customized filters to meet your specific needs. Thermally conductive epoxy protects the filter package from mechanical and heat stress and also provides a waterproof seal. These filtered receptacles mate to Series 801 stub ACME threaded, Series 804 Push-Pull and Series 805 Triple-Start, and are available in jam nut or square flange versions.

SPECIFICATIONS

Current Rating	#23 5 AMPS, #20HD 7.5 A., #16 13 A., #12 23 A.
Dielectric Withstanding Voltage	300 VDC
Insulation Resistance	5000 megohms minimum @ 200 VDC
Operating Temperature	-55° C. to +125° C.
Shock	300 g.
Vibration	37 g.
Shielding Effectiveness	50 dB minimum from 100MHz to 1000MHz.

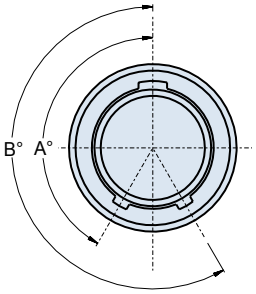
MATERIALS AND FINISHES

Shells, Jam Nuts	Aluminum alloy or stainless steel
Contacts	Beryllium copper alloy, 50 µInch gold plated
Insulators	Liquid crystal polymer (LCP)
Interfacial Seal, O-rings, Wire Sealing Grommet	Fluorosilicone rubber

Series 80 "Mighty Mouse" Filter Connector
Normal and Alternate Key Positions
and Panel Cut-Out Dimensions

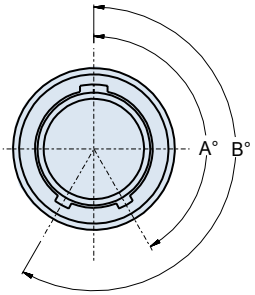
A — Normal Keying **B** — Alternate #1 **C** — Alternate #2 **D** — Alternate #3

Plug Key Positions



	A°	B°
A	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°

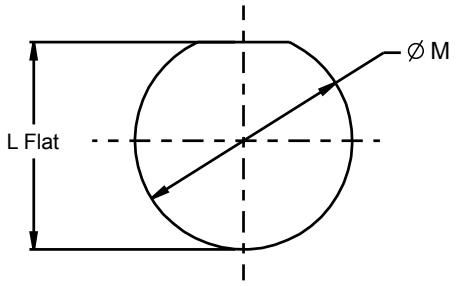
Receptacle Key Positions



	A°	B°
A	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°

C

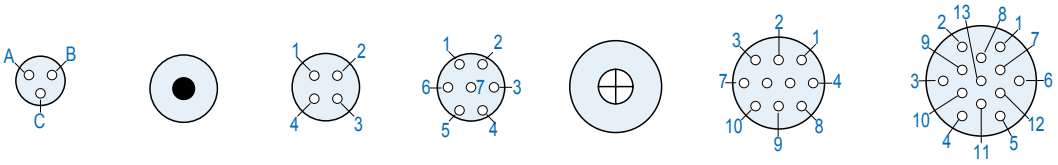
PANEL CUTOUTS	
L FLAT	**⌀ M**
.362 (9.2) .358 (9.1)	.385 (9.8)
.422 (10.7) .418 (10.6)	.448 (11.4)
.553 (14.0) .549 (13.9)	.573 (14.6)
.553 (14.0) .549 (13.9)	.573 (14.6)
.611 (15.5) .607 (15.4)	.635 (16.1)
.673 (17.1) .669 (17.0)	.698 (17.7)
.861 (21.9) .857 (21.8)	.885 (22.5)
1.040 (26.4) 1.036 (26.3)	1.075 (27.3)
1.113 (28.3) 1.109 (28.2)	1.135 (28.8)



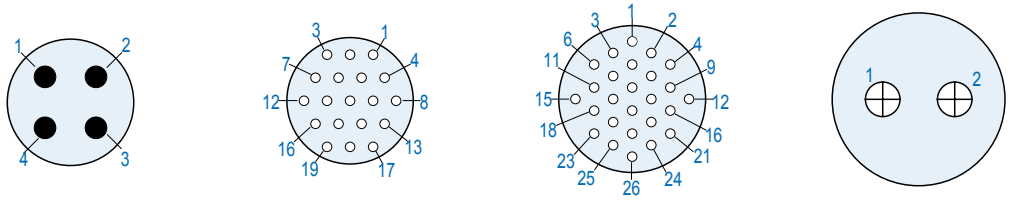
Series 80 "Mighty Mouse" Filter Connector Contact Arrangements

The contact arrangements on this page apply to filtered versions of Series 801, 804 and 805 only. The size #23 contacts are rated at 5 amps current and accept #22 to #28 AWG wire.

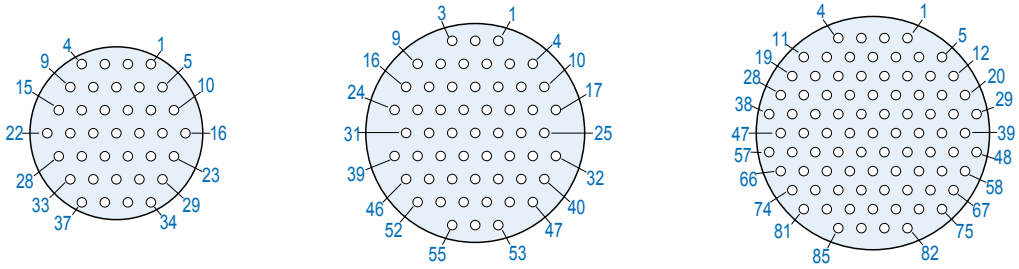
Mating Face View of Pin Insert, Socket Cavity Numbers are Reversed



Series 801	**5-3**	**6-1**	**6-4**	**6-7**	**7-1**	**7-10**	**8-13**
Series 804	**5-3**	**6-1**	**6-4**	**6-7**	**7-1**	**7-10**	**8-13**
Series 805	**Not Avail.**	**8-1**	**8-4**	**8-7**	**9-1**	**9-10**	**10-13**
Number of Contacts	**3**	**1**	**4**	**7**	**1**	**10**	**13**
Contact Size	**#23**	**#16**	**#23**	**#23**	**#12**	**#23**	**#23**



Series 801	**9-4**	**9-19**	**10-26**	**13-2**
Series 804	**9-4**	**9-19**	**10-26**	**12-2**
Series 805	**11-4**	**11-19**	**12-26**	**15-2**
Number of Contacts	**4**	**19**	**26**	**2**
Contact Size	**#16**	**#23**	**#23**	**#12**

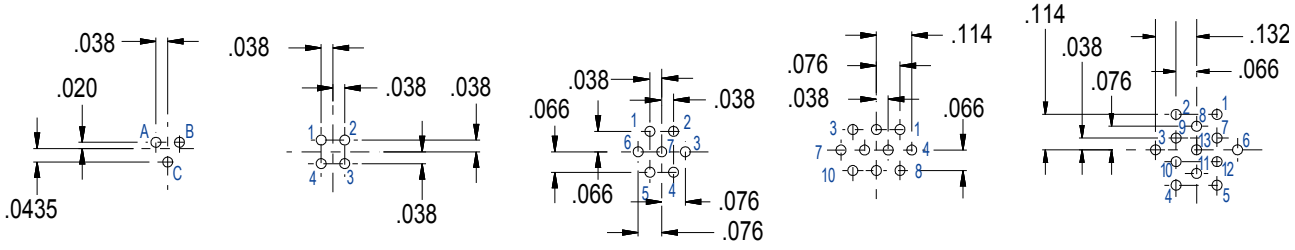


Series 801	**13-37**	**16-55**	**17-85**
Series 804	**12-37**	**14-55**	**15-85**
Series 805	**15-37**	**18-55**	**19-85**
Number of Contacts	**37**	**55**	**85**
Contact Size	**#23**	**#23**	**#23**

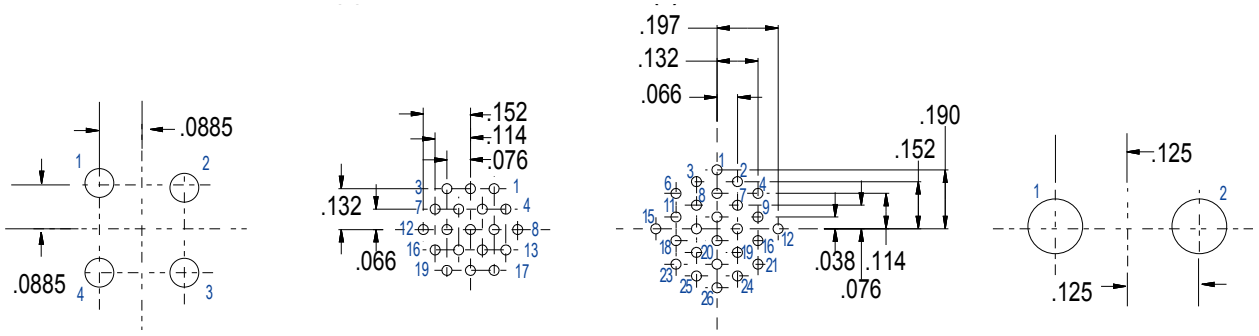
Series 80 "Mighty Mouse" Filter Connector
Printed Circuit Board Layouts - Pin Connectors
Series 801, 804 and 805 Straight PC Tails

Contact Tail Diameters

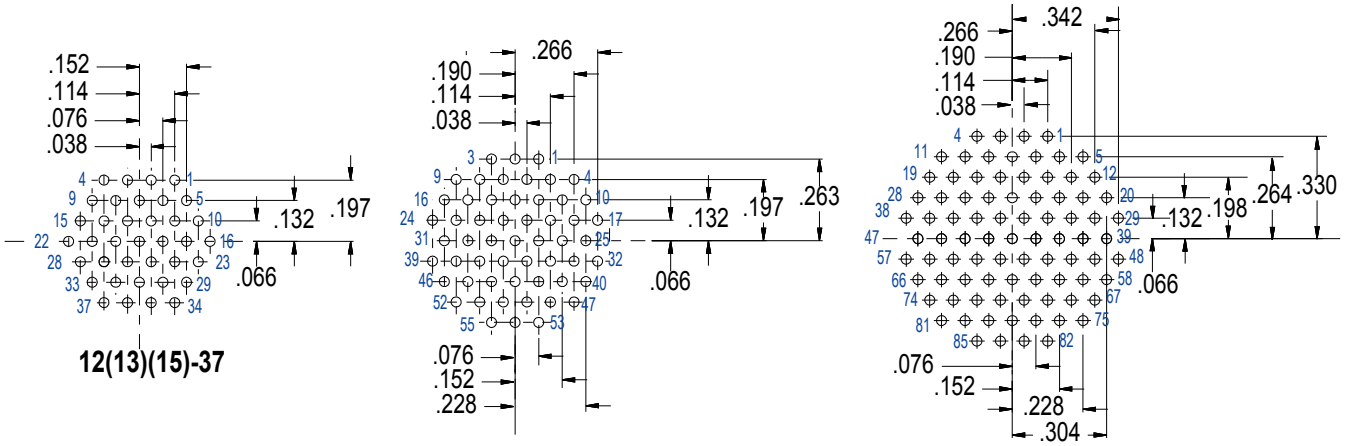
Size #23 contacts : .022 Maximum; Size #16 contacts: .064 Maximum; Size #12 contacts: .096 Maximum



Series 801	**5-3**	**6-4**	**6-7**	**7-10**	**8-13**
Series 804	**5-3**	**6-4**	**6-7**	**7-10**	**8-13**
Series 805	**N/A**	**8-4**	**8-7**	**9-10**	**10-13**



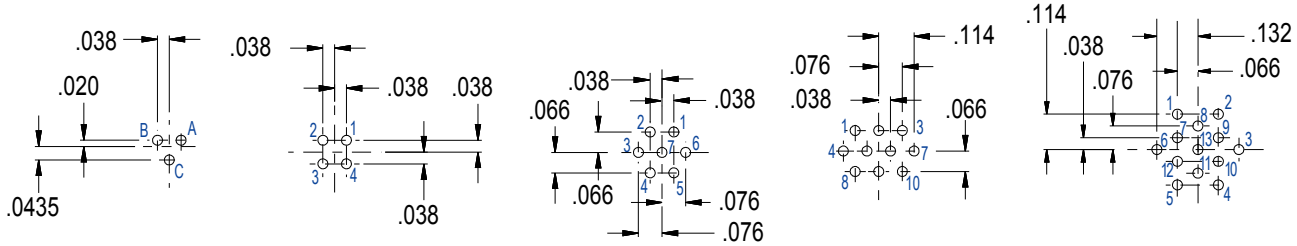
Series 801	**9-4**	**9-19**	**10-26**	**12-2**
Series 804	**9-4**	**9-19**	**10-26**	**13-2**
Series 805	**11-4**	**11-19**	**12-26**	**15-2**



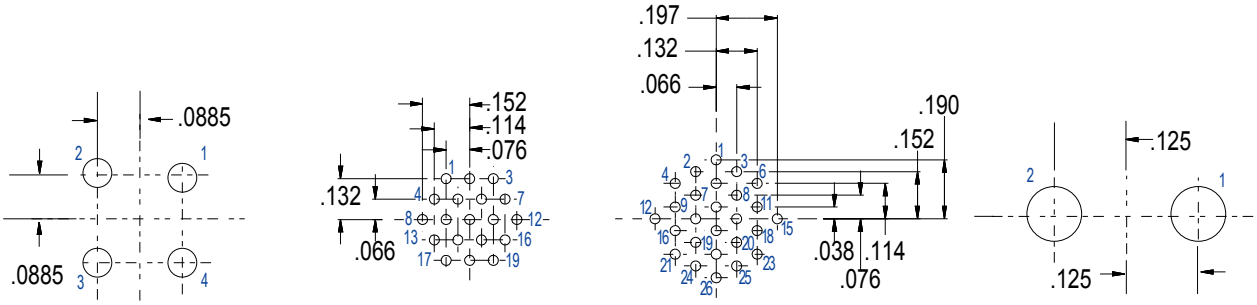
Series 801	**13-37**	**16-55**	**17-85**
Series 804	**12-37**	**14-55**	**15-85**
Series 805	**15-37**	**18-55**	**19-85**

Contact Tail Diameters

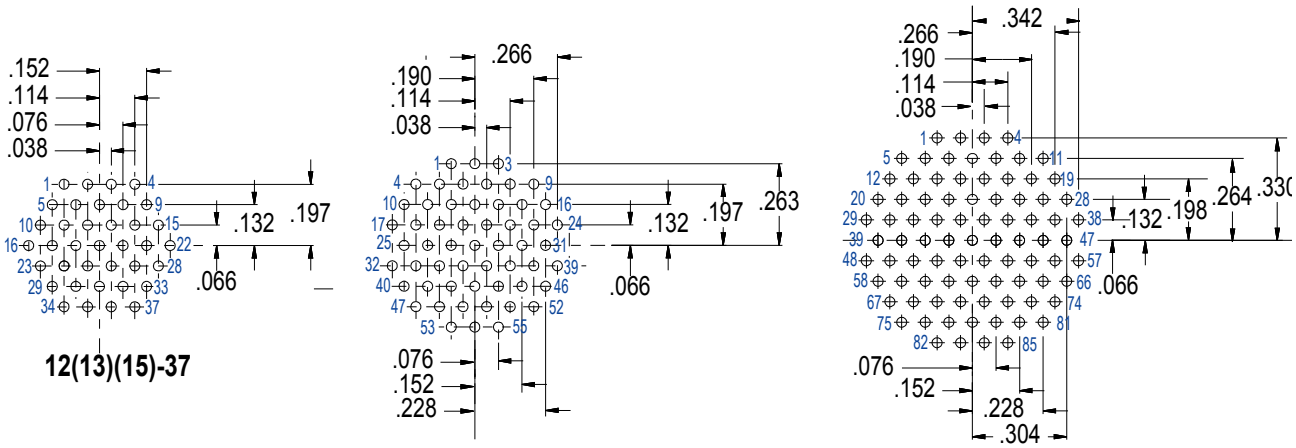
Size #23 contacts : .022 Maximum; Size #16 contacts: .064 Maximum; Size #12 contacts: .096 Maximum



Series 801	**5-3**	**6-4**	**6-7**	**7-10**	**8-13**
Series 804	**5-3**	**6-4**	**6-7**	**7-10**	**8-13**
Series 805	**N/A**	**8-4**	**8-7**	**9-10**	**10-13**



Series 801	**9-4**	**9-19**	**10-26**	**12-2**
Series 804	**9-4**	**9-19**	**10-26**	**13-2**
Series 805	**11-4**	**11-19**	**12-26**	**15-2**



Series 801	**13-37**	**16-55**	**17-85**
Series 804	**12-37**	**14-55**	**15-85**
Series 805	**15-37**	**18-55**	**19-85**

CAGE Codes 06324

Printed in U.S.A.

240-801 "Mighty Mouse" Filter Connector
Heavy Duty Double-Start Coupling
Master How to Order • Part Number Breakdown

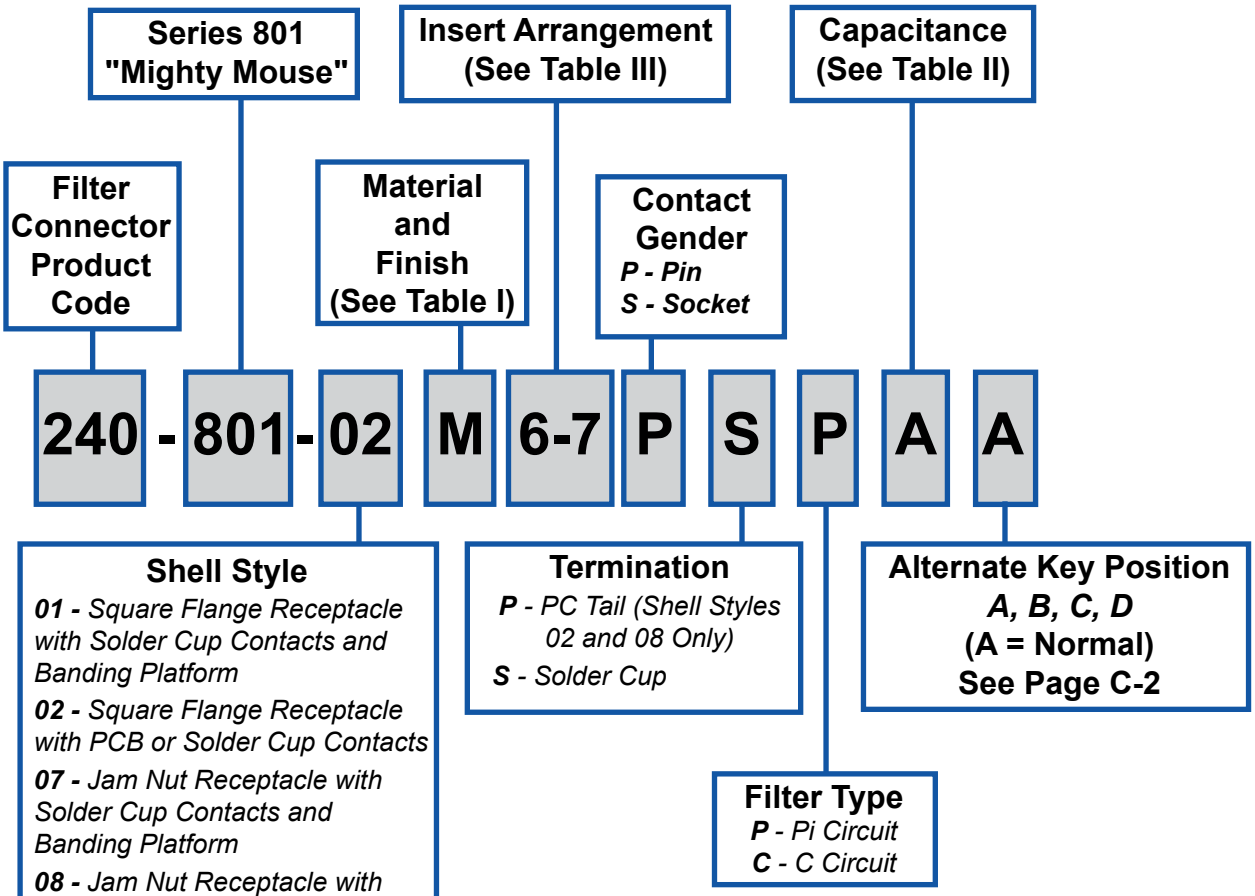


TABLE I: MATERIALS AND FINISH

SYM	MATERIAL	FINISH DESCRIPTION
M	Aluminum	Electroless Nickel
MT	Aluminum	Ni-PTFE 1000 Hour Grey™ (Nickel Fluorocarbon Polymer)
NF	Aluminum	Cadmium O.D. Over Electroless Nickel
P	Stainless Steel	Electro-Deposited Nickel
ZN	Aluminum	Zinc-Nickel Over Electroless Nickel

TABLE II: CAPACITOR ARRAY CODE CAPACITANCE RANGE

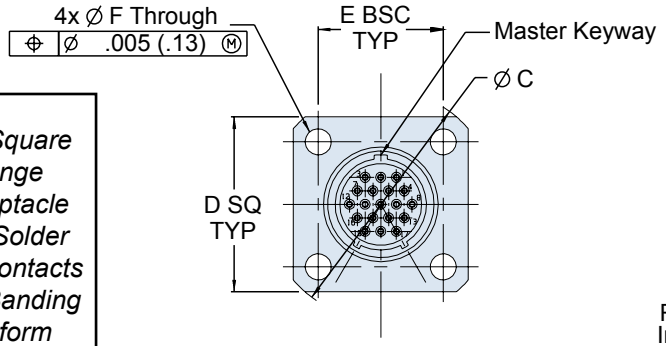
CLASS	PI - CIRCUIT (pF)	C - CIRCUIT (pF)
A	38,000 - 56,000	19,000 - 28,000
B	32,000 - 45,000	16,000 - 22,500
C	18,000 - 33,000	9,000 - 16,500
D	8,000 - 12,000	4,000 - 6,000
E	3,300 - 5,000	1,650 - 2,500
F	800 - 1,300	400 - 650
G	400 - 600	200 - 300

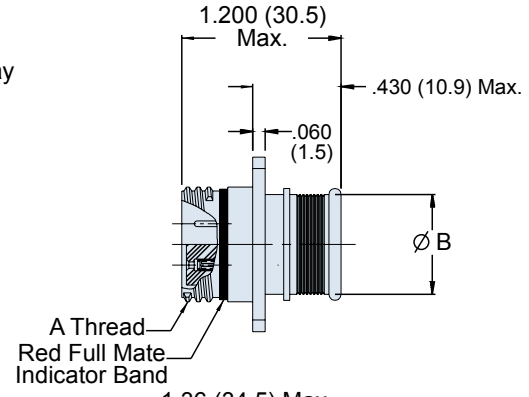
TABLE III INSERT ARANGEMENTS

Arr. No.	Contact Size	Contact Qty.
5-3	23	3
6-1	16	1
6-4	23	4
6-7	23	7
7-1	12	1
7-10	23	10
8-13	23	13
9-4	16	4
9-19	23	19
10-26	23	26
13-2	12	2
13-37	23	37
16-55	23	55
17-85	23	85

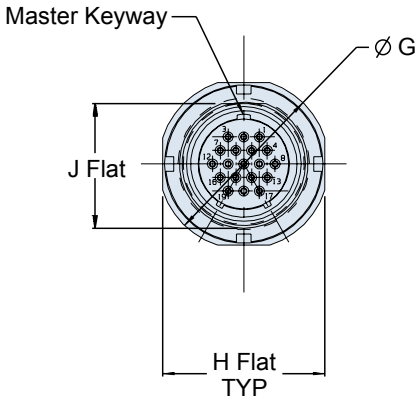
CAGE Codes 06324
Printed in U.S.A.

01 - *Square Flange Receptacle with Solder Cup Contacts and Banding Platform*





07 - *Jam Nut Receptacle with Solder Cup Contacts and Banding Platform*



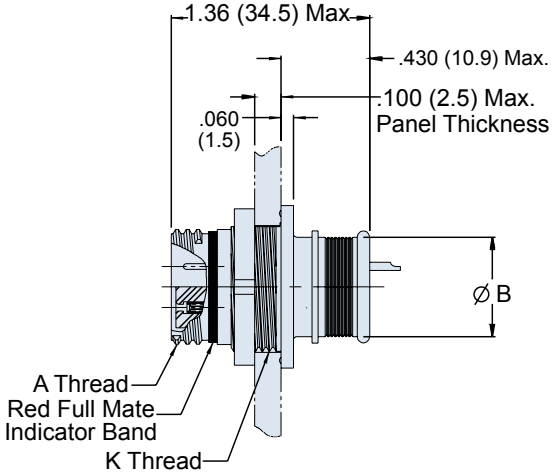
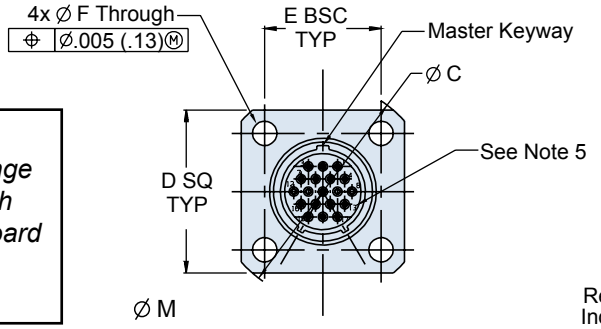


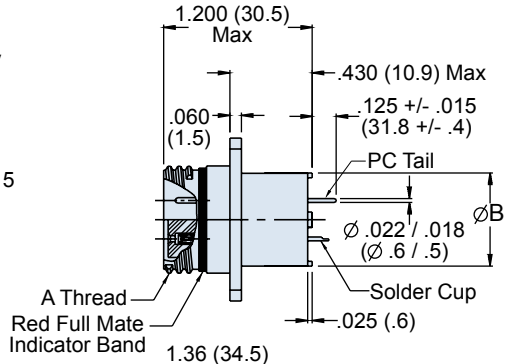
TABLE I: DIMENSIONS

SHELL SIZE	A THREAD	Ø B	Ø C	D SQ	E BSC	F HOLES	Ø G	H FLAT	J FLAT	K THREAD
5	.3125- .05P- .1L -2A	.365 (9.3)	.680 (17.3)	.530 (13.5)	.363 (9.2)	.096 (2.4) .091 (2.3)	.575 (14.6)	.545 (13.8)	.350 (8.9)	.3750-28 UN-2A
6	.3750- .05P- .1L -2A	.409 (10.4)	.750 (19.1)	.590 (15.0)	.423 (10.7)		.635 (16.1)	.595 (15.1)	.410 (10.4)	.4375-28 UNEF-2A
7	.4375- .05P- .1L -2A	.500 (12.7)	.850 (21.6)	.650 (16.5)	.483 (12.3)		.755 (19.2)	.723 (18.4)	.536 (13.6)	.5625-32 UN-2A
8	.5000- .05P- .1L -2A	.522 (13.3)	.938 (23.8)	.712 (18.1)	.545 (13.8)		.755 (19.2)	.723 (18.4)	.536 (13.6)	.5625-32 UN-2A
9	.5625- .05P- .1L -2A	.558 (14.2)	1.125 (28.6)	.850 (21.6)	.607 (15.4)		.830 (21.1)	.790 (20.1)	.596 (15.1)	.6250-28 UN-2A
10	.6250- .05P- .1L -2A	.652 (16.6)	1.188 (30.2)	.890 (22.6)	.670 (17.0)	.130 (3.3) .126 (3.2)	.890 (22.6)	.855 (21.7)	.658 (16.7)	.6875-28 UN-2A
13	.8125- .1P- .2L -2A	.707 (18.0)	1.375 (34.9)	1.030 (26.2)	.812 (20.6)		1.078 (27.4)	1.044 (26.5)	.845 (21.5)	.875-28 UN-2A
16	1.000- .1P- .2L -2A	.871 (22.1)	1.625 (41.3)	1.219 (31.0)	.981 (24.9)		1.264 (32.1)	1.230 (31.2)	1.022 (26.0)	1.0625-20 UN-2A
17	1.062- .1P- .2L -2A	.965 (24.5)	1.700 (43.2)	1.280 (32.5)	1.060 (26.9)		1.325 (33.7)	1.290 (32.8)	1.096 (27.8)	1.125-28 UN-2A

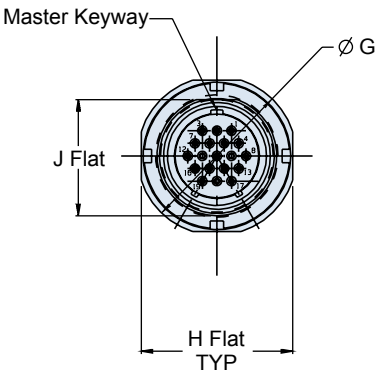
240-801-02 and -08
"Mighty Mouse" Filter Connector
Heavy Duty Double-Start Coupling
Printed Circuit Board Versions with PCB or Solder Cup Contacts

02 - *Square Flange Receptacle with Printed Circuit Board Contacts*





08 - *Jam Nut Receptacle with Printed Circuit Board Contacts*



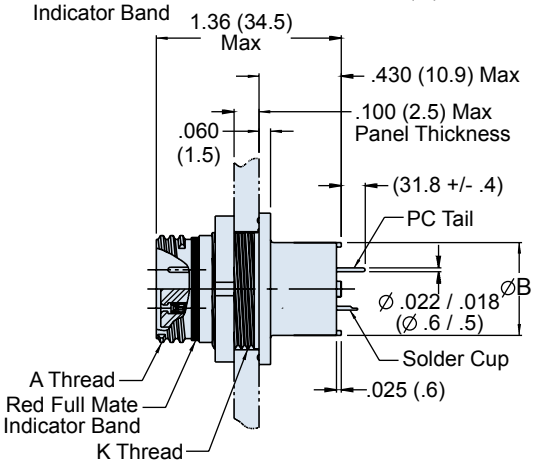
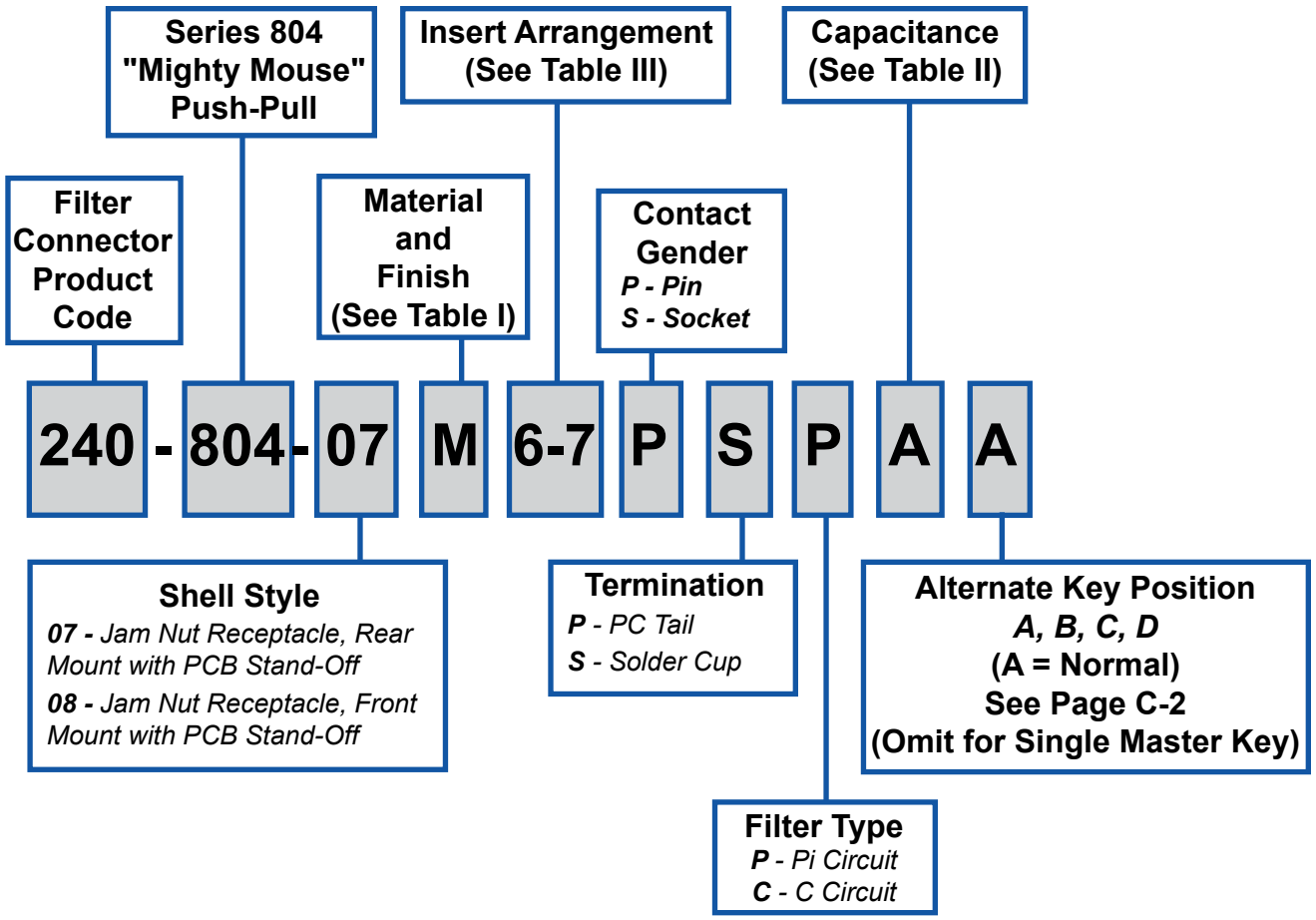


TABLE I: DIMENSIONS

SHELL SIZE	A THREAD	⌀ B	⌀ C	D SQ	E BSC	F HOLES	⌀ G	H FLAT	J FLAT	K THREAD
5	.3125- .05P- .1L -2A	.245 (6.2)	.680 (17.3)	.530 (13.5)	.363 (9.2)	.096 (2.4) .091 (2.3)	.575 (14.6)	.545 (13.8)	.350 (8.9)	.3750-28 UN-2A
6	.3750- .05P- .1L -2A	.330 (8.4)	.750 (19.1)	.590 (15.0)	.423 (10.7)	.096 (2.4) .091 (2.3)	.635 (16.1)	.595 (15.1)	.410 (10.4)	.4375-28 UNEF-2A
7	.4375- .05P- .1L -2A	.442 (11.2)	.850 (21.6)	.650 (16.5)	.483 (12.3)	.096 (2.4) .091 (2.3)	.755 (19.2)	.723 (18.4)	.536 (13.6)	.5625-32 UN-2A
8	.5000- .05P- .1L -2A	.493 (12.5)	.938 (23.8)	.712 (18.1)	.545 (13.8)	.096 (2.4) .091 (2.3)	.755 (19.2)	.723 (18.4)	.536 (13.6)	.5625-32 UN-2A
9	.5625- .05P- .1L -2A	.551 (14.0)	1.125 (28.6)	.850 (21.6)	.607 (15.4)	.130 (3.3) .126 (3.2)	.830 (21.1)	.790 (20.1)	.596 (15.1)	.6250-28 UN-2A
10	.6250- .05P- .1L -2A	.620 (15.7)	1.188 (30.2)	.890 (22.6)	.670 (17.0)	.130 (3.3) .126 (3.2)	.890 (22.6)	.855 (21.7)	.658 (16.7)	.6875-28 UN-2A
13	.8125- .1P- .2L -2A	.703 (17.9)	1.375 (34.9)	1.030 (26.2)	.812 (20.6)	.130 (3.3) .126 (3.2)	1.078 (27.4)	1.044 (26.5)	.845 (21.5)	.875-28 UN-2A
16	1.000- .1P- .2L -2A	.863 (21.9)	1.625 (41.3)	1.219 (31.0)	.981 (24.9)	.130 (3.3) .126 (3.2)	1.264 (32.1)	1.230 (31.2)	1.022 (26.0)	1.0625-20 UN-2A
17	1.0625- .1P- .2L -2A	.912 (23.2)	1.700 (43.2)	1.280 (32.5)	1.060 (26.9)	.130 (3.3) .126 (3.2)	1.325 (33.7)	1.290 (32.8)	1.096 (27.8)	1.125-28 UN-2A

Series 240-804 "Mighty Mouse" Filter Connector
Push-Pull Quick Disconnect
Master How to Order • Part Number Breakdown



C

TABLE I: MATERIALS AND FINISH

SYM	MATERIAL	FINISH DESCRIPTION
M	Aluminum	Electroless Nickel
MT	Aluminum	Ni-PTFE 1000 Hour Grey™ (Nickel Fluorocarbon Polymer)
NF	Aluminum	Cadmium O.D. Over Electroless Nickel
P	Stainless Steel	Electro-Deposited Nickel
ZN	Aluminum	Zinc-Nickel Over Electroless Nickel

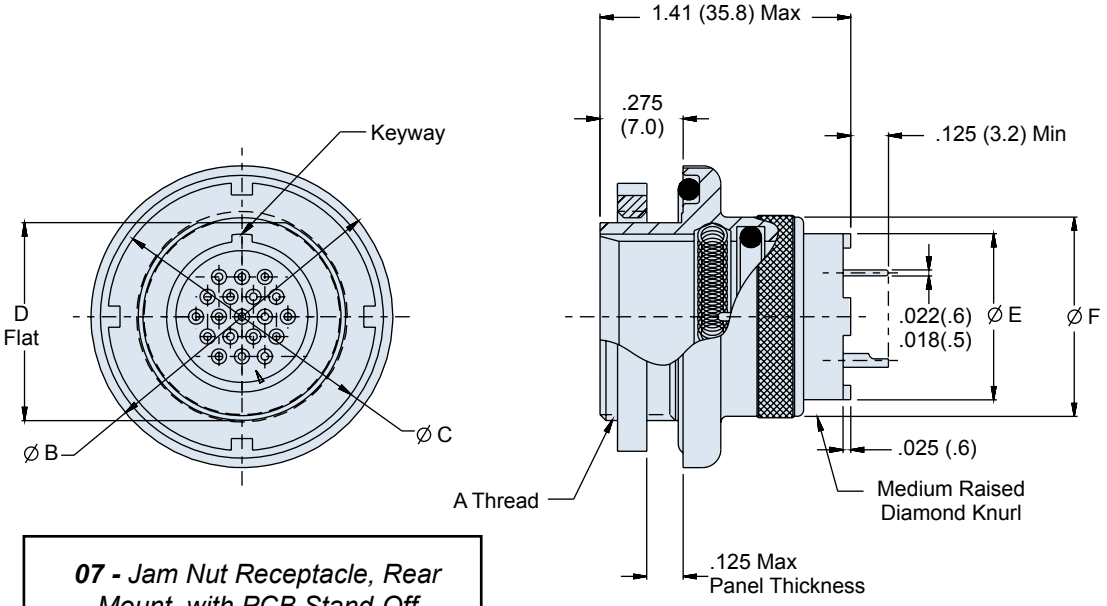
TABLE II: CAPACITOR ARRAY CODE CAPACITANCE RANGE

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

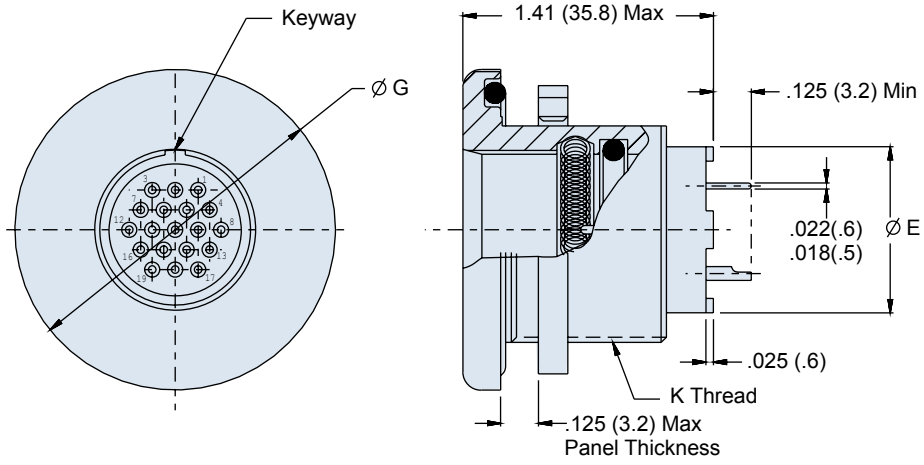
TABLE III INSERT ARANGEMENTS

Arr. No.	Contact Size	Contact Qty.
5-3	23	3
6-1	16	1
6-4	23	4
6-7	23	7
7-1	12	1
7-10	23	10
8-13	23	13
9-4	16	4
9-19	23	19
10-26	23	26
12-2	12	2
12-37	23	37
14-55	23	55
15-85	23	85

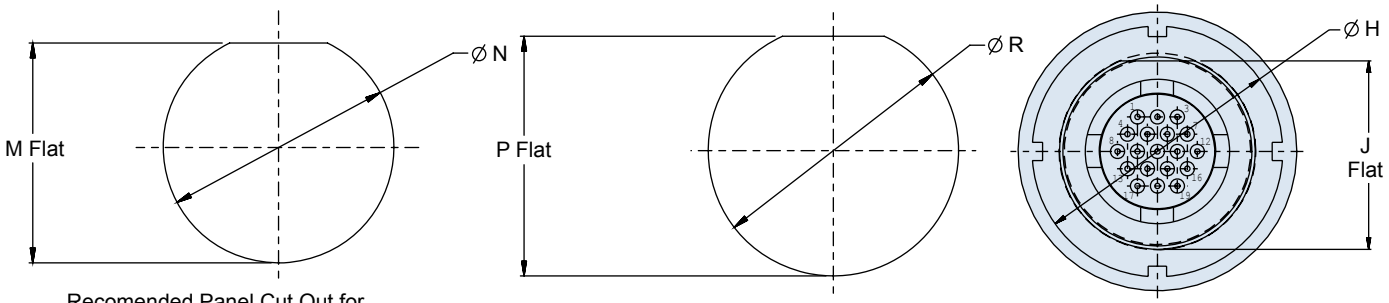
240-804-07 and -08
"Mighty Mouse" Filter Connector
Push-Pull Quick Disconnect
Printed Circuit Board Versions with PCB or Solder Cup Contacts



***07 -** Jam Nut Receptacle, Rear Mount, with PCB Stand-Off*



***08 -** Jam Nut Receptacle, Front Mount, with PCB Stand-Off*



Recomended Panel Cut Out for
Rear Mount Jam Nut Receptacle

Recomended Panel Cut Out for
Front Mount Jam Nut Receptacle

TABLE II: DIMENSIONS

SHELL SIZE	A THREAD	Ø B	Ø C	D FLAT	Ø E	Ø F	Ø G	Ø H	J FLAT	K THREAD	M FLAT	Ø N	P FLAT	Ø R
5	.4375-32 UN-2A	.790 (20.1)	.660 (16.8)	.415 (10.5)	.348 (8.8)	.450 (11.4)	.830 (21.1)	0.730 (18.5)	.470 (11.9)	.5000-32 UN-2A	.427 (10.8) .423 (10.7)	.448 (11.4)	.482 (12.2) .478 (12.1)	.510 (13.0)
6	.5000-32 UN-2A	.830 (21.1)	.720 (18.3)	.467 (11.9)	.413 (10.5)	.520 (13.2)	.885 (22.5)	.780 (19.8)	.530 (13.5)	.5625-28 UN-2A	.479 (12.2) .475 (12.1)	.510 (13.0)	.542 (13.8) .538 (13.7)	.575 (14.6)
7	.6250-28 UN-2A	.910 (23.1)	.835 (21.2)	.594 (15.1)	.461 (11.7)	.580 (14.7)	.995 (25.3)	.920 (23.4)	.663 (16.8)	.6875-28 UN-2A	.606 (15.4) .601 (15.3)	.635 (16.1)	.676 (17.2) .671 (17.0)	.698 (17.7)
8	.6250-28 UN-2A	.955 (24.3)	.836 (21.2)	.594 (15.1)	.493 (12.5)	.603 (15.3)	.995 (25.3)	.920 (23.4)	.663 (16.8)	.6875-28 UN-2A	.606 (15.4) .602 (15.3)	.635 (16.1)	.676 (17.2) .671 (17.0)	.698 (17.7)
9	.6875-32 UN-2A	1.000 (25.4)	.900 (22.9)	.655 (16.6)	.551 (14.0)	.695 (17.7)	1.075 (27.3)	.970 (24.6)	.720 (18.3)	.7500-28 UN-2A	.667 (16.9) .663 (16.8)	.695 (17.7)	.732 (18.6) .728 (18.5)	.760 (19.3)
10	.7500-28 UN-2A	1.085 (27.6)	.950 (24.1)	.721 (18.3)	.655 (16.6)	.735 (18.7)	1.140 (29.0)	1.040 (26.4)	.788 (20.0)	.8125-28 UN-2A	.734 (18.6) .729 (18.5)	.760 (19.3)	.801 (20.3) .796 (20.2)	.822 (20.9)
12	.8750-28 UN-2A	1.180 (30.0)	1.080 (27.4)	.843 (21.4)	.703 (17.9)	.880 (22.4)	1.340 (34.0)	1.230 (31.2)	.970 (24.6)	1.000-28 UN-2A	.855 (21.7) .851 (21.6)	.885 (22.5)	.982 (24.9) .978 (24.8)	1.010 (25.7)
14	1.0000-28 UN-2A	1.325 (33.7)	1.210 (30.7)	.968 (24.6)	.863 (21.9)	1.010 (25.7)	1.390 (35.3)	1.280 (32.5)	1.020 (25.9)	1.062-20 UN-2A	.980 (24.9) .976 (24.8)	1.010 (25.7)	1.032 (26.2) 1.028 (26.1)	1.075 (27.3)
15	1.125-28 UN-2A	1.390 (35.3)	1.280 (32.5)	1.029 (26.1)	.912 (23.2)	1.060 (26.9)	1.450 (36.8)	1.340 (34.0)	1.093 (27.8)	1.125-28 UN-2A	1.041 (26.4) 1.037 (26.3)	1.070 (27.2)	1.015 (25.8) 1.011 (25.7)	1.135 (28.8)

240-805 "Mighty Mouse" Filter Connector
Triple-Start ACME Coupling Threads
Master How to Order • Part Number Breakdown

Series 805 Triple-Start

Insert Arrangement (See Table III)

Filter Connector Product Code

Connector Material and Finish (See Table I)

Contact Gender
P *- Pin*
S *- Socket*

Capacitance Code (See Table II)

240	-	805	-	02	M	8-7	P	S	P	A	A

Shell Style
01 - *Square Flange Receptacle with Solder Cup Contacts and Band Platform*
02 - *Square Flange Receptacle with Printed Circuit Board Contacts*
07 - *Jam Nut Receptacle with Solder Cup Contacts and Band Platform*
08 - *Jam Nut Receptacle with Printed Circuit Board Contacts*

Contact Termination
S *- Solder Cup (Shell Style 01 and 07 only)*
P *- PC Tail (Shell Style 02 and 08 only)*

Filter Type
P *- Pi* ***C*** *- C*

Alternate Key Position
A, B, C, D
(**A** = Normal)

TABLE I: MATERIALS AND FINISH

SYM	MATERIAL	FINISH DESCRIPTION
M	Aluminum	Electroless Nickel
MT	Aluminum	Ni-PTFE 1000 Hour Grey™ (Nickel Fluorocarbon Polymer)
NF	Aluminum	Cadmium O.D. Over Electroless Nickel
P	Stainless Steel	Electro-Deposited Nickel
ZN	Aluminum	Zinc-Nickel Over Electroless Nickel

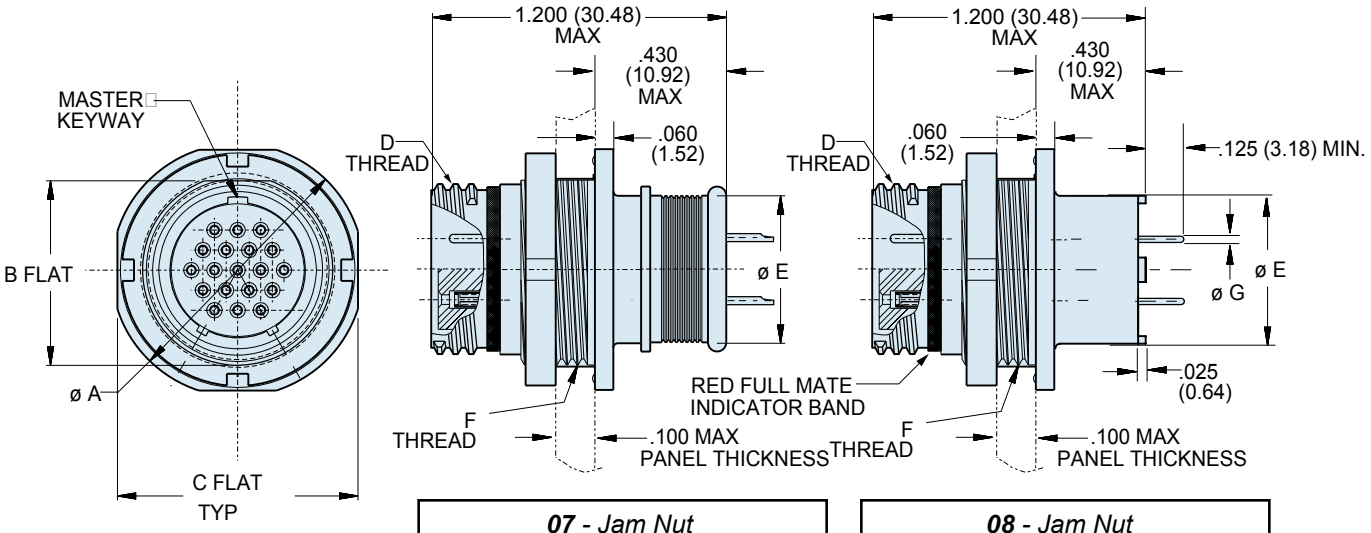
TABLE II: CAPACITANCE CODE

CODE	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

TABLE III INSERT ARANGEMENTS

Arr. No.	Contact Size	Contact Qty.
8-1	16	1
8-4	23	4
8-7	23	7
9-1	12	1
9-10	23	10
10-13	23	13
11-4	16	4
11-19	23	19
12-26	23	26
15-2	12	2
15-37	23	37
18-55	23	55
19-85	23	85

240-805-07 and -08
"Mighty Mouse" Filter Connector
Triple-Start ACME Coupling Threads
Jam Nut Receptacle Versions



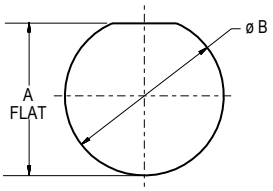
***07** - Jam Nut*
Solder Cup with Band Platform

***08** - Jam Nut*
Printed Circuit Board Contacts

DIMENSIONS

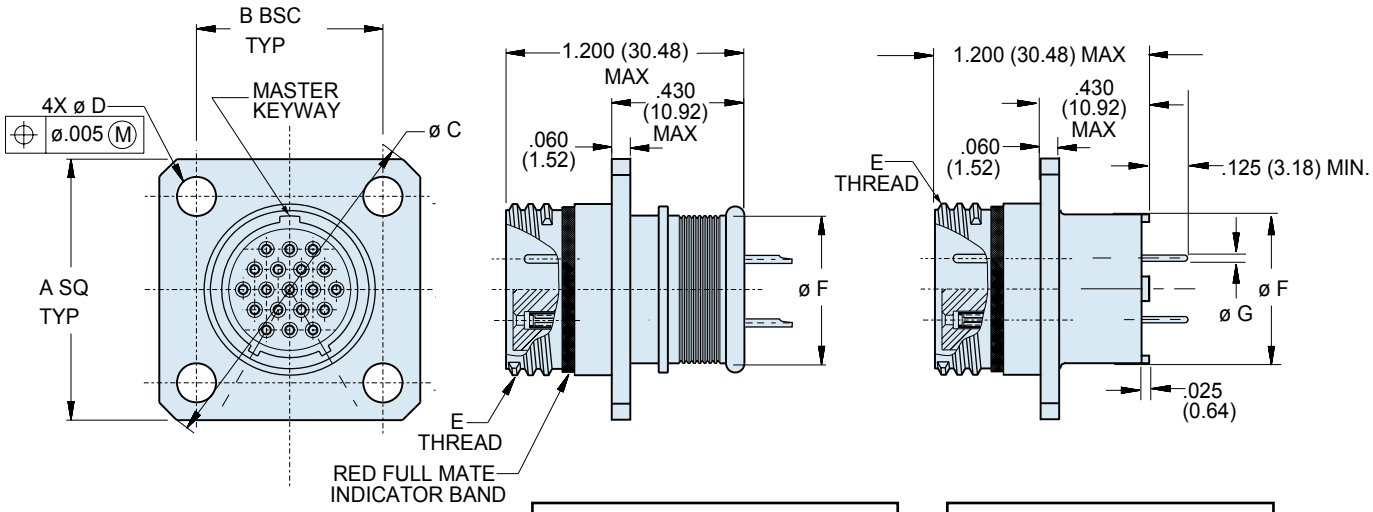
Shell Size	Ø A In.	Ø A mm.	B In.	B mm.	C In.	C mm.	D Threads	Ø E In.	Ø E mm.	F Threads	Ø G Tail Dia.
8	.760	19.30	.535	13.59	.730	18.54	.5000-.1P-.3L-TS-2A	.413	10.49	.5625-28 UN-2A	**#23** .018/.022 (0.46/0.56)
9	.880	22.35	.661	16.79	.850	21.59	.5625-.1P-.3L-TS-2A	.500	12.70	.6875-28 UN-2A	
10	.880	22.35	.661	16.79	.850	21.59	.6250-.1P-.3L-TS-2A	.530	13.46	.6875-28 UN-2A	**#20** .024/.028 (0.61/0.71)
11	.955	24.26	.721	18.31	.925	23.50	.6875-.1P-.3L-TS-2A	.610	15.49	.7500-28 UN-2A	
12	1.060	26.92	.784	19.91	1.035	26.29	.7500-.1P-.3L-TS-2A	.655	16.51	.8125-28 UN-2A	**#16** .060/.064 (1.52/1.63)
15	1.203	30.56	.970	24.64	1.173	29.79	.9375-.1P-.3L-TS-2A	.746	18.95	1.000-28 UN-2A	
18	1.389	35.28	1.147	29.13	1.359	34.52	1.1250-.1P-.3L-TS-2A	.871	22.12	1.187-28 UN-2A	**#12** .092/.096 (2.34/2.44
19	1.450	36.83	1.221	31.01	1.420	36.07	1.1870-.1P-.3L-TS-2A	.972	24.67	1.250-28 UN-2A	
23	1.705	43.31	1.470	37.34	1.675	42.55	1.4375-.1P-.3L-TS-2A	1.876	30.12	1.500-28 UN-2A	

PANEL CUTOUTS



Shell Size	A In. ± .002	A mm. ± 0.05	Ø B In.	Ø B mm.
8	.543	13.79	.577/.567	14.7/14.4
9	.669	16.99	.703/.695	17.9/17.6
10	.669	16.99	.703/.695	17.9/17.6
11	.729	18.51	.765/.755	19.4/19.2
12	.792	20.12	.827/.817	21.0/20.8
15	.978	24.84	1.015/1.005	25.8/25.5
18	1.155	29.34	1.203/1.193	30.6/30.3
19	1.231	31.27	1.265/1.255	32.1/31.9
23	1.480	37.59	1.515/1.505	38.5/38.2

240-805-01 and -02
"Mighty Mouse" Filter Connector
Triple-Start ACME Coupling Threads
Square Flange Receptacle Versions

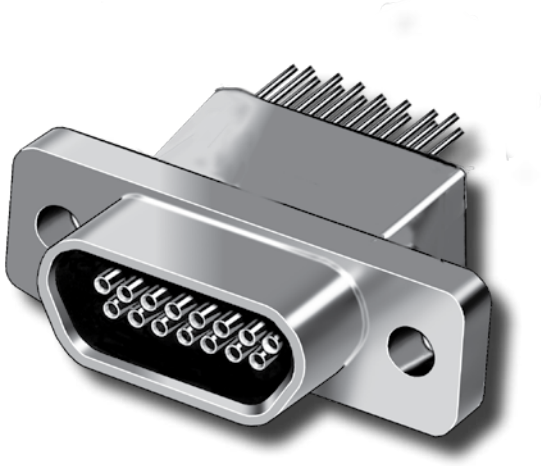


***01** - Square Flange Mount Solder Cup with Band Platform*

***02** - Square Flange Mount with Printed Circuit Board Contacts*

DIMENSIONS												
Shell Size	A		B		ØC		ØD		E Threads	Ø F		Ø G Tail Dia.
	In.	mm.	In.	mm.	In.	mm.	In. ± .003	mm. ± .08		In.	mm.	
8	.850	21.59	.660	16.76	1.150	29.21	.094	2.39	.5000-.1P-.3L-TS-2A	.413	10.49	**#23** .018/.022 (0.46/0.56)
9	.913	23.19	.723	18.36	1.230	31.24	.094	2.39	.5625-.1P-.3L-TS-2A	.500	12.70	
10	.975	24.77	.785	19.94	1.330	33.78	.094	2.39	.6250-.1P-.3L-TS-2A	.530	13.46	**#20** .024/.028 (0.61/0.71)
11	1.039	26.39	.848	21.54	1.410	35.81	.094	2.39	.6875-.1P-.3L-TS-2A	.610	15.49	
12	1.099	27.91	.909	23.09	1.500	38.10	.094	2.39	.7500-.1P-.3L-TS-2A	.655	16.51	**#16** .060/.064 (1.52/1.63)
15	1.288	32.74	1.058	26.87	1.750	44.45	.128	3.25	.9375-.1P-.3L-TS-2A	.746	18.95	
18	1.475	37.47	1.255	31.88	2.000	50.80	.128	3.25	1.1250-.1P-.3L-TS-2A	.871	22.12	**#12** .092/.096 (2.34/2.44
19	1.537	39.04	1.327	33.71	2.094	53.19	.128	3.25	1.1870-.1P-.3L-TS-2A	.972	24.67	
23	1.787	45.39	1.570	39.88	2.470	61.98	.128	3.25	1.435-.1P-.3L-TS-2A	1.186	30.12	

MIL-DTL-83513 Type Micro-D Subminiature Filter Connectors



PRODUCT FEATURES

Glenair's Filtered Solder Cup Micro-D's provide 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 seven filter classes and eight layouts. Glenair filtered Micro-D connectors comply with applicable MIL-DTL-83513 requirements and are 100% intermateable with standard connectors.

Choose 9 to 67 Contacts, with standard cadmium or nickel plating on the connector housing or choose optional finishes such as gold or chem film. Sometimes a standard part just won't do. For these situations Glenair welcomes your custom requirements. Whatever the need, we can propose a solution and back it up with rapid design and prototyping.

The World's Only Short Lead-Time Source for Filtered Micro-D Subminiature Connectors

Filter With Solder Cup Contacts
Available in 9,15, 21, 25, 31, and 37 contacts, these aluminum shell filtered Micro-D connectors are backfilled with thermally conductive epoxy to allow soldering without heat damage to sensitive filter elements.

Pre-Wired Pigtail Filter Connector
These pre-wired connectors save labor and provide added reliability. Choose from 9 to 37 contacts. Mates to standard M83513 type Micro-D connectors.

Vertical Printed Circuit Board Micro-D Filter
Featuring a one piece aluminum shell, these thru-hole board mount connectors can be ordered with jackposts or with jackscrews for flex-to-board applications. PC terminals are .018" (0.46 mm.) diameter and are spaced .050" (1.27 mm.) apart.

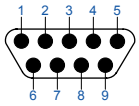
90° Printed Circuit Board Micro-D Filter
These right angle thru-hole headers replicate the popular "CBR" .100" by .100" terminal spacing. Filter elements are housed in a wider shell. A molded rear tray withstands soldering heat and is impervious to chemicals. Terminals are encapsulated in epoxy.

In-Line Filter Adapter
Avoid costly redesign with pin/socket feed-thru adapters. These adapters plug into any standard M83513 connector. Simply unplug your existing cable, install the filter adapter and reconnect the cable.

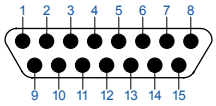
CAGE Codes 06324
Printed in U.S.A.

Micro-D Filter Connectors
Contact Arrangements, Materials and Performance Specifications

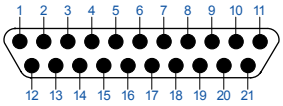
Contact Arrangements (Face View Pin Connector)



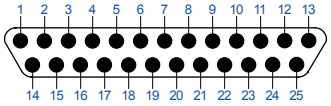
9 Contacts



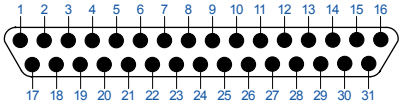
15 Contacts



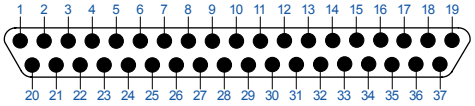
21 Contacts



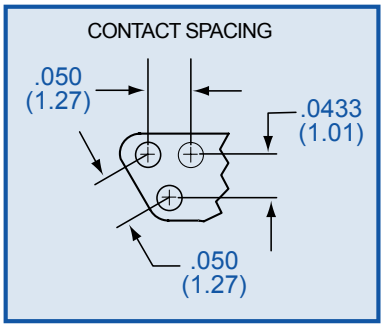
25 Contacts



31 Contacts



37 Contacts



PERFORMANCE SPECIFICATIONS	
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)
Capacitance and Attenuation	(See Table on Preceding Page)
For additional performance requirements, please refer to MIL-DTL-83513	

MATERIALS AND FINISHES	
Connector Shell (Aluminum Alloy 6061)	Plating Code 1: Cadmium With Yellow Chromate Plating Code 2: Electroless Nickel Plating Code 33: Ni-PTFE *1000 Hour Grey™* Plating Code 5: Gold Plating Code 6: Chem Film
Insulator	Liquid Crystal Polymer (LCP)
Seals	Flourosilicone 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

C

INSERTION LOSS

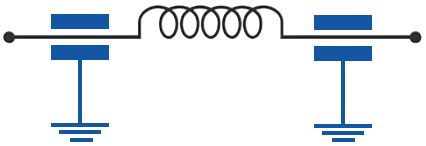
Insertion Loss, dB Minimum, 25°C

Frequency	A	B	C	D	E	F	G
1 MHz	6	5	3	–	–	–	–
10 MHz	24	23	16	8	4	–	–
100 MHz	41	39	35	28	21	10	5
500 -1000 MHz	50	49	46	41	34	23	17

CAPACITANCE

Filter Class	Capacitance
A	19000 – 28000 [pF]
B	16000 – 22500 [pF]
C	9000 – 16500 [pF]
D	4000 – 6000 [pF]
E	1650 – 2500 [pF]
F	400 – 650 [pF]
G	200 – 300 [pF]

Pi



INSERTION LOSS

Insertion Loss, dB Minimum, 25°C

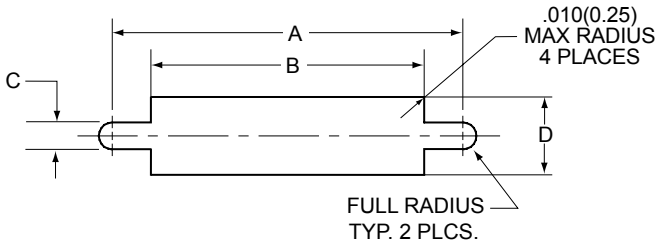
Frequency	A	B	C	D	E	F	G
1 MHz	10	8	5	1	–	–	–
10 MHz	40	35	25	14	8	2	0.8
100 MHz	62	60	57	50	40	15	13
500 - 1000 MHz	66	62	60	58	52	32	22

CAPACITANCE

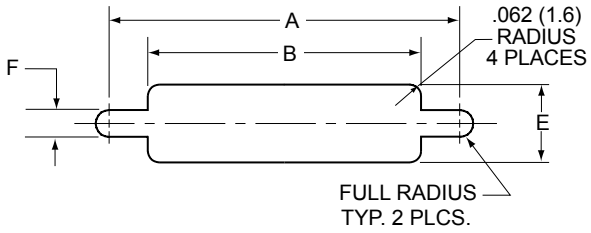
Filter Class	Capacitance
A	38000 – 56000 [pF]
B	32000 – 45000 [pF]
C	18000 – 33000 [pF]
D	8000 – 12000 [pF]
E	3300 – 5000 [pF]
F	800 – 1300 [pF]
G	400 – 600 [pF]

Contact factory for other configurations.

Micro-D Filter Connectors
Recommended Panel Cutouts



Front Panel Mounting



Rear Panel Mounting

METAL SHELL MWDM CONNECTORS												
	A		B		C		D		E		F	
Layout	In. ± .003	mm. ± 0.08	In. ± .002	mm. ± 0.05	In. ± .002	mm. ± 0.05	In. ± .002	mm. ± 0.05	In. ± .005	mm. ± 0.13	In. ± .002	mm. ± 0.05
9	.565	14.35	.410	10.41	.091	2.31	.290	7.37	.256	6.50	.126	3.20
15	.715	18.16	.560	14.22	.091	2.31	.290	7.37	.256	6.50	.126	3.20
21	.865	21.97	.710	18.03	.091	2.31	.290	7.37	.256	6.50	.126	3.20
25	.965	24.51	.810	20.57	.091	2.31	.290	7.37	.256	6.50	.126	3.20
31	1.115	28.32	.960	24.38	.091	2.31	.290	7.37	.256	6.50	.126	3.20
37	1.265	32.13	1.110	28.19	.091	2.31	.290	7.37	.256	6.50	.126	3.20

Note: For front panel mounting, filtered connectors require a larger cut-out than standard MIL-DTL-83513 connectors.

MIL-STD-681 Color Code Chart

MIL-STD-681 COLOR CODE CHART FOR MICRO-D CONNECTORS

PIN NO.	MIL-STD-681 NUMBER	Base Color	First Stripe	Second Stripe	PIN NO.	MIL-STD-681 NO.	Base Color	First Stripe	Second Stripe	Third Stripe
1	0	BLK			51	957	WHT	GRN	VIO	
2	1	BRN			52	958	WHT	GRN	GRY	
3	2	RED			53	967	WHT	BLU	VIO	
4	3	ORN			54	968	WHT	BLU	GRY	
5	4	YEL			55	978	WHT	VIO	GRY	
6	5	GRN			56	9012	WHT	BLK	BRN	RED
7	6	BLU			57	9013	WHT	BLK	BRN	ORN
8	7	VIO			58	9014	WHT	BLK	BRN	YEL
9	8	GRY			59	9015	WHT	BLK	BRN	GRN
10	9	WHT			60	9016	WHT	BLK	BRN	BLU
11	90	WHT	BLK		61	9017	WHT	BLK	BRN	VIO
12	91	WHT	BRN		62	9018	WHT	BLK	BRN	GRY
13	92	WHT	RED		63	9023	WHT	BLK	RED	ORN
14	93	WHT	ORN		64	9024	WHT	BLK	RED	YEL
15	94	WHT	YEL		65	9025	WHT	BLK	RED	GRN
16	95	WHT	GRN		66	9026	WHT	BLK	RED	BLU
17	96	WHT	BLU		67	9027	WHT	BLK	RED	VIO
18	97	WHT	VIO		68	9028	WHT	BLK	RED	GRY
19	98	WHT	GRY		69	9034	WHT	BLK	ORN	YEL
20	901	WHT	BLK	BRN	70	9035	WHT	BLK	ORN	GRN
21	902	WHT	BLK	RED	71	9036	WHT	BLK	ORN	BLU
22	903	WHT	BLK	ORN	72	9037	WHT	BLK	ORN	VIO
23	904	WHT	BLK	YEL	73	9038	WHT	BLK	ORN	GRY
24	905	WHT	BLK	GRN	74	9045	WHT	BLK	YEL	GRN
25	906	WHT	BLK	BLU	75	9046	WHT	BLK	YEL	BLU
26	907	WHT	BLK	VIO	76	9047	WHT	BLK	YEL	VIO
27	908	WHT	BLK	GRY	77	9048	WHT	BLK	YEL	GRY
28	912	WHT	BRN	RED	78	9056	WHT	BLK	GRN	BLU
29	913	WHT	BRN	ORN	79	9057	WHT	BLK	GRN	VIO
30	914	WHT	BRN	YEL	80	9058	WHT	BLK	GRN	GRY
31	915	WHT	BRN	GRN	81	9067	WHT	BLK	BLU	VIO
32	916	WHT	BRN	BLU	82	9068	WHT	BLK	BLU	GRY
33	917	WHT	BRN	VIO	83	9078	WHT	BLK	VIO	GRY
34	918	WHT	BRN	GRY	84	9123	WHT	BRN	RED	ORN
35	923	WHT	RED	ORN	85	9124	WHT	BRN	RED	YEL
36	924	WHT	RED	YEL	86	9125	WHT	BRN	RED	GRN
37	925	WHT	RED	GRN	87	9126	WHT	BRN	RED	BLU
38	926	WHT	RED	BLU	88	9127	WHT	BRN	RED	VIO
39	927	WHT	RED	VIO	89	9128	WHT	BRN	RED	GRY
40	928	WHT	RED	GRY	90	9134	WHT	BRN	ORN	YEL
41	934	WHT	ORN	YEL	91	9135	WHT	BRN	ORN	GRN
42	935	WHT	ORN	GRN	92	9136	WHT	BRN	ORN	BLU
43	936	WHT	ORN	BLU	93	9137	WHT	BRN	ORN	VIO
44	937	WHT	ORN	VIO	94	9138	WHT	BRN	ORN	GRY
45	938	WHT	ORN	GRY	95	9145	WHT	BRN	YEL	GRN
46	945	WHT	YEL	GRN	96	9146	WHT	BRN	YEL	BLU
47	946	WHT	YEL	BLU	97	9147	WHT	BRN	YEL	VIO
48	947	WHT	YEL	VIO	98	9148	WHT	BRN	YEL	GRY
49	948	WHT	YEL	GRY	99	9156	WHT	BRN	GRN	BLU
50	956	WHT	GRN	BLU	100	9157	WHT	BRN	GRN	VIO

CAGE Codes 06324

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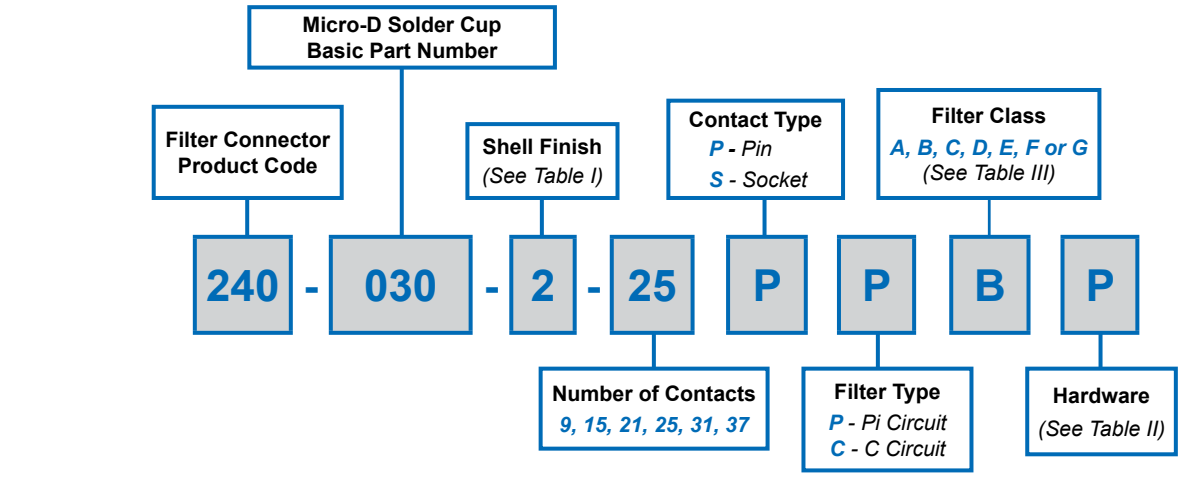
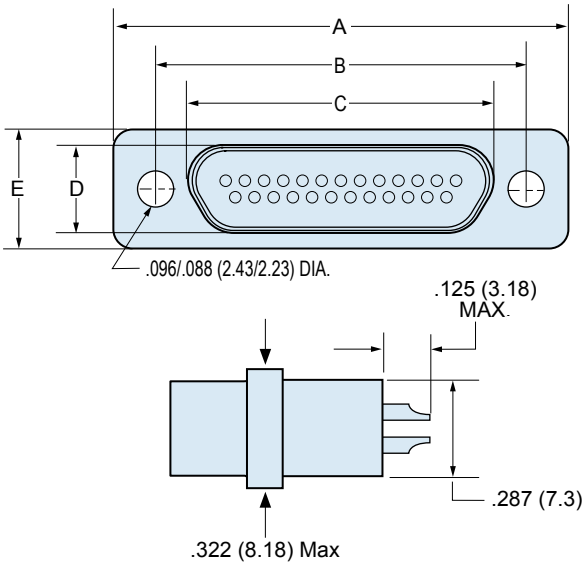
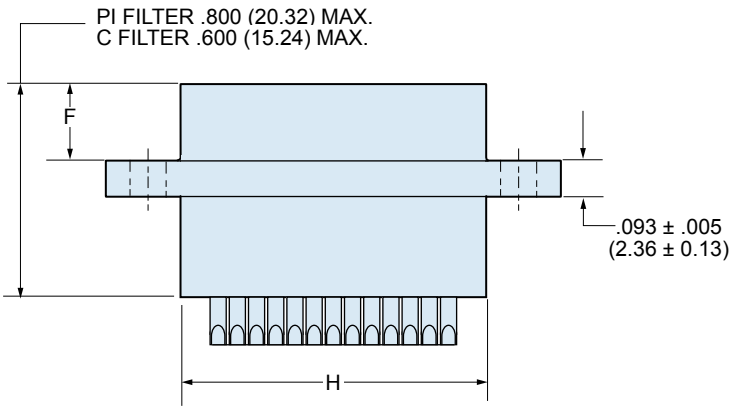
240-030
Micro-D Filter Connectors
Solder Cup







Glenair's Filtered Solder Cup Micro-D's provide 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 seven filter classes and eight layouts. Glenair filtered Micro-D connectors comply with applicable MIL-DTL-83513 requirements and are 100% intermateable with standard connectors.

Choose 9 to 67 Contacts, with standard cadmium or nickel plating on the connector housing or choose optional finishes such as gold or chem film.

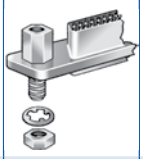
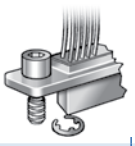
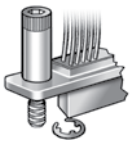
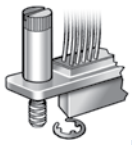
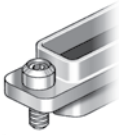
TABLE I: SHELL FINISH

SYM	MATERIAL	FINISH DESCRIPTION
1	Aluminum	Cadmium
2	Aluminum	Nickel
5	Aluminum	Gold
6	Aluminum	Chem Film
33	Aluminum	Ni-PTFE *1000 Hour Grey™*

TABLE III: 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

TABLE II: MICRO-D MOUNTING HARDWARE

B	P	M	M1	S	S1	L	K	F	R
									
Thru-Hole Order Hardware Separately	**Jackpost** Removable Includes Nut and Washer	**Jackscrew** Hex Head Removable E-ring	**Jackscrew** Hex Head Removable E-ring Extended	**Jackscrew** Slot Head Removable E-ring	**Jackscrew** Slot Head Removable E-ring Extended	**Jackscrew** Hex Head Non-Removable	**Jackscrew** Slot Head Non-Removable Extended	**Float Mount** For Front Panel Mounting	**Float Mount** For Rear Panel Mounting

MICRO-D FILTER SOLDER CUP DIMENSIONS

	A Max.		B		C Max.		D Max.		E Max.		F		H Max.	
Layout	In.	mm.	In. ± .003	mm. ± 0.08	In.	mm.	In.	mm.	In.	mm.	In. ± .004	mm. ± 0.10	In.	mm.
9P	.785	19.94	.565	14.35	.333	8.46	.184	4.67	.310	7.87	.183	4.65	.400	10.16
9S	.785	19.94	.565	14.35	.400	10.16	.250	6.35	.310	7.87	.195	4.95	.400	10.16
15P	.935	23.75	.715	18.16	.483	12.27	.184	4.67	.310	7.87	.183	4.65	.550	13.97
15S	.935	23.75	.715	18.16	.551	14.00	.250	6.35	.310	7.87	.195	4.95	.550	13.97
21P	1.085	27.56	.865	21.97	.633	16.08	.184	4.67	.310	7.87	.183	4.65	.700	17.78
21S	1.085	27.56	.865	21.97	.701	17.81	.250	6.35	.310	7.87	.195	4.95	.700	17.78
25P	1.185	30.01	.965	24.51	.733	18.62	.184	4.67	.310	7.87	.183	4.65	.800	20.32
25S	1.185	30.01	.965	24.51	.801	20.35	.250	6.35	.310	7.87	.195	4.95	.800	20.32
31P	1.335	33.91	1.115	28.32	.883	22.43	.184	4.67	.310	7.87	.183	4.65	.950	24.13
31S	1.335	33.91	1.115	28.32	.951	24.16	.250	6.35	.310	7.87	.195	4.95	.950	24.13
37P	1.485	37.72	1.265	32.13	1.033	26.24	.184	4.67	.310	7.87	.183	4.65	1.100	27.94
37S	1.485	37.72	1.265	32.13	1.101	27.96	.250	6.35	.310	7.87	.195	4.95	1.100	27.94

240-031
Micro-D Filter Connectors
Vertical Mount Printed Circuit Board

Micro-D Vertical Mount PCB Basic Part Number

Filter Connector Product Code

Shell Finish *(See Table I)*

Contact Type
PS *- Pin/Socket*

Filter Type
P *- Pi Circuit*
C *- C Circuit*

PC Tail Length (Inches)
1 *- .110 (2.79 mm)*
2 *- .250 (6.35 mm)*

240 - 031 - 2 - 25 PS C D 1 PN

Number of Contacts
9, 15, 21, 25, 31, 37

Filter Class
A, B, C, D, E, F or G
(See Table II)

Hardware Option

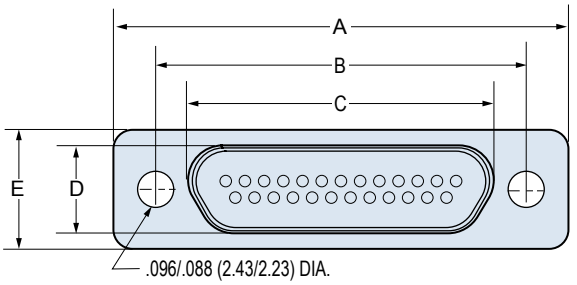
NN *- No Jackpost, No Threaded Insert*
PN *- Extended Jackpost for .062" (1.6) PCB, No Threaded Insert*
RN *- Extended Jackpost for .196" (5.0) PCB, No Threaded Insert*
NU *- Threaded Insert Only, No Jackposts*
PU *- Short Jackpost and Threaded Insert*

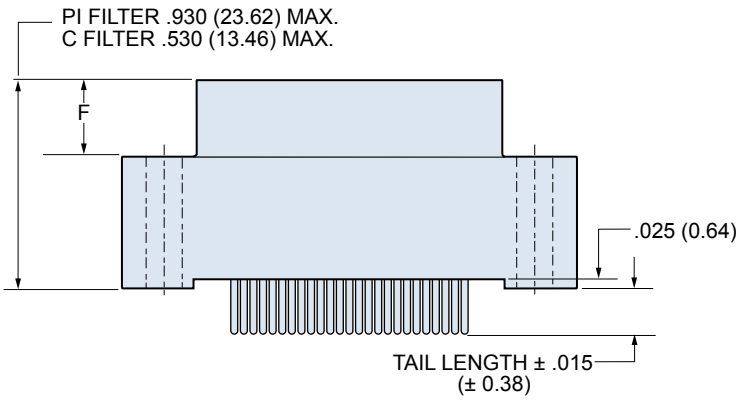
Rear Panel Jackposts with Threaded Insert:

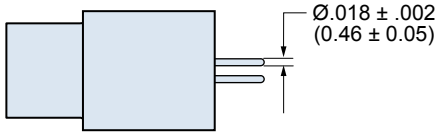
R6U *- 0.125" (3.2) Panel*
R5U *- 0.094" (2.4) Panel*
R4U *- 0.062" (1.6) Panel*
R3U *- 0.047" (1.2) Panel*
R2U *- 0.031" (0.8) Panel*

Jack screw Options:

M *- Hex Head Jackscrews*
S *- Slot Head Jackscrews*







Printed Circuit Board Micro-D Filter Connectors. These vertical mount PCB connectors are ideal for flexible circuit or motherboard applications.

Integral Board Standoffs and Pre-Tinned Tails—These connectors are solder dipped (63/37 SnPb) and feature a full complement of mounting hardware options.

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SYM	**MATERIAL**	**FINISH DESCRIPTION**
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2	Aluminum	Nickel
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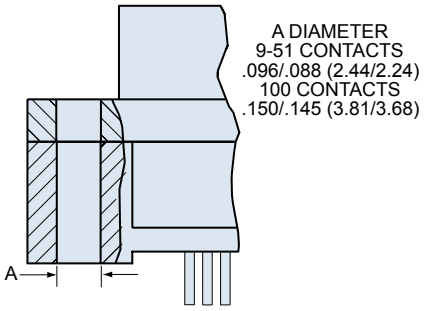
E	3,300 - 5,000	1,650 - 2,500
F	800 - 1,300	400 - 650
G	400 - 600	200 - 300

MICRO-D FILTER PIGTAIL DIMENSIONS

	A Max.		B		C Max.		D Max.		E Max.		F	
Layout	In.	mm.	In. ± .003	mm. ± 0.08	In.	mm.	In.	mm.	In.	mm.	In. ± .004	mm. ± 0.10
9P	.785	19.94	.565	14.35	.333	8.46	.184	4.67	.310	7.87	.183	4.65
9S	.785	19.94	.565	14.35	.400	10.16	.250	6.35	.310	7.87	.195	4.95
15P	.935	23.75	.715	18.16	.483	12.27	.184	4.67	.310	7.87	.183	4.65
15S	.935	23.75	.715	18.16	.551	14.00	.250	6.35	.310	7.87	.195	4.95
21P	1.085	27.56	.865	21.97	.633	16.08	.184	4.67	.310	7.87	.183	4.65
21S	1.085	27.56	.865	21.97	.701	17.81	.250	6.35	.310	7.87	.195	4.95
25P	1.185	30.01	.965	24.51	.733	18.62	.184	4.67	.310	7.87	.183	4.65
25S	1.185	30.01	.965	24.51	.801	20.35	.250	6.35	.310	7.87	.195	4.95
31P	1.335	33.91	1.115	28.32	.883	22.43	.184	4.67	.310	7.87	.183	4.65
31S	1.335	33.91	1.115	28.32	.951	24.16	.250	6.35	.310	7.87	.195	4.95
37P	1.485	37.72	1.265	32.13	1.033	26.24	.184	4.67	.310	7.87	.183	4.65
37S	1.485	37.72	1.265	32.13	1.101	27.96	.250	6.35	.310	7.87	.195	4.95

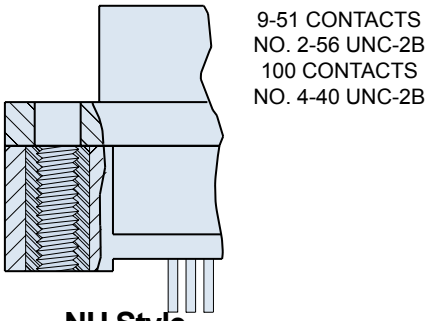
240-031
Micro-D Filter Connectors
Vertical Mount PCB Hardware Options

Connector Supplied Without Hardware



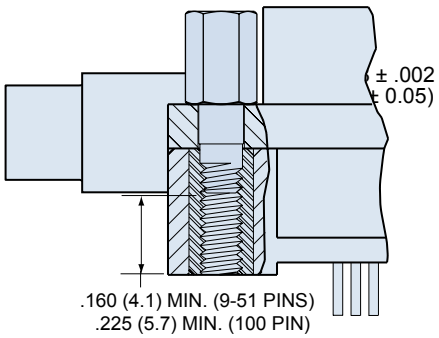
NN Style
Thru-Hole, No Hardware

Connector Supplied With Threaded Inserts



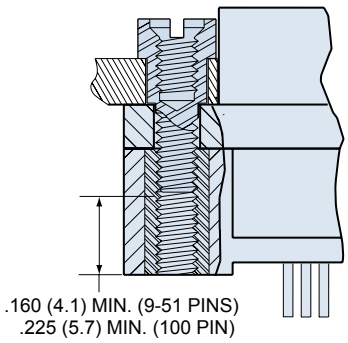
NU Style
Threaded Insert

Jackpost and Threaded Insert



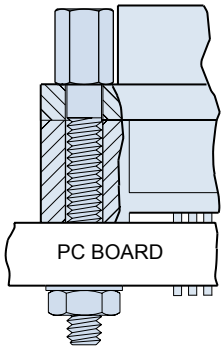
PU Style
Jackpost with Threaded Insert

Rear Panel Jackpost and Threaded Insert



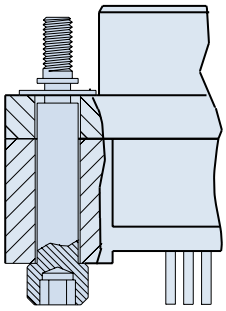
RU Style
Rear Panel Jackpost with Threaded Insert

Extended Jackpost



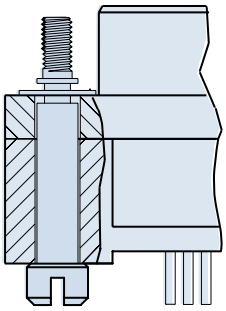
PN Style for .062" PCB
RN Style for .196" PCB

Jackscrew, Hex



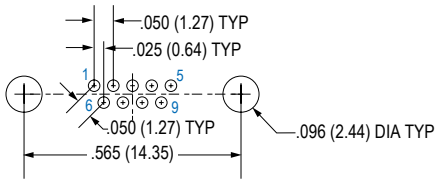
M Style
Hex Head Jackscrew with E-Ring

Jackscrew, Slot

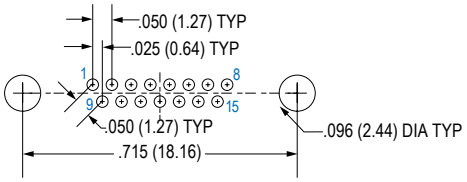


S Style
Slot Head Jackscrew with E-Ring

PC Tail Diameter .018 ± .002 (0.46 ± 0.05)
Contact numbers shown are for pin connectors. Reverse for socket.



9 Contacts



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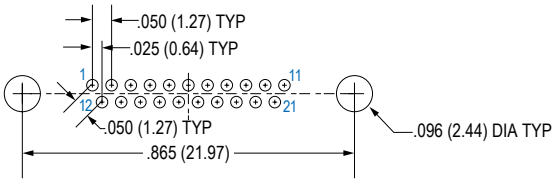
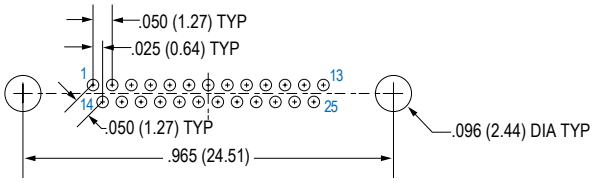


21 Contacts



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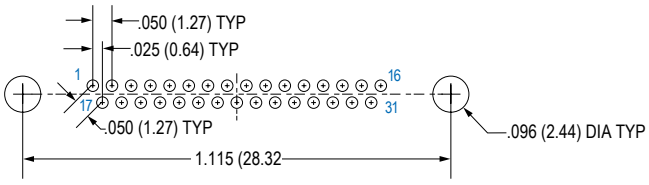
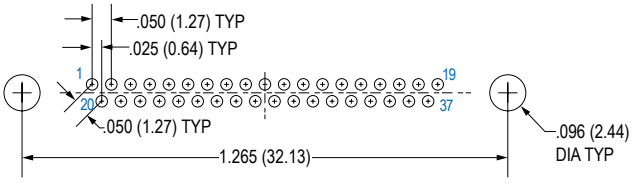


31 Contacts



37 Contacts

240-032
Micro-D Filter Connectors
Pre-Wired Pigtails with Insulated Wire

Micro-D Pigtail Basic Part Number

Wire Type
K - M22759/11 600 Vrms Teflon® (TFE)
C - M22759/33 600 Berms Modified Cross-Linked Tefzel® (ETFE)

Filter Connector Product Code		Shell Finish (See Table I)		Contact Type P - Pin S - Socket		Filter Type P - Pi Circuit C - C Circuit				Wire Length (Inches)		Hardware (See Table II)
240	-	032	-	2	-	25	P	P	B	6	K	1	-	18	B

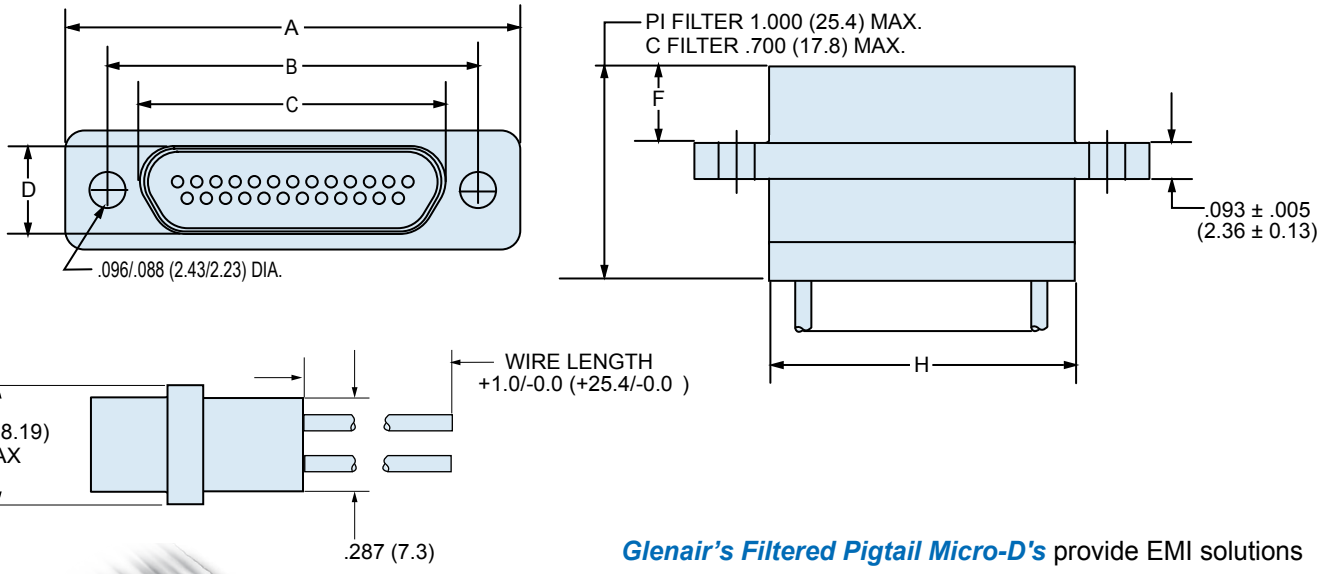
Number of Contacts
9, 15, 21, 25, 31, 37

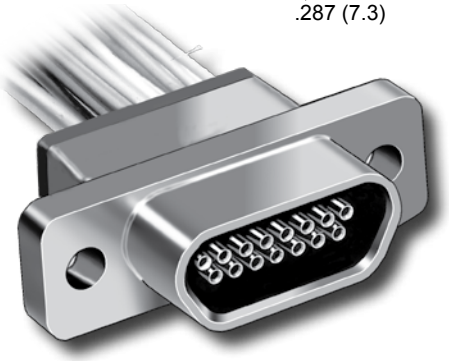
Filter Class
A, B, C, D, E, F or G (See Table III)

Wire Gauge (AWG)
4 - #24
6 - #26

Wire Color
1 - White
2 - Yellow
5 - Color Coded per MIL-STD-681 (#24 and #26 gauge only)
7 - Ten Color Repeat

D





Glenair's Filtered Pigtail Micro-D's provide EMI solutions in a miniaturized M83513 Micro-D connector. These connectors feature ceramic capacitor planar arrays and ferrite inductors. Insulated wire is factory precision-crimped to TwistPin contacts for superior reliability in the most demanding environments.

Choose 9 to 67 Contacts, with standard cadmium or nickel plating on the connector housing or choose optional finishes such as gold or chem film.

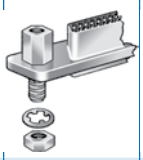
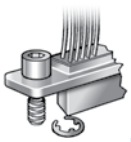
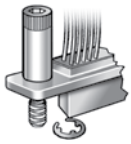
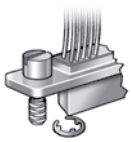
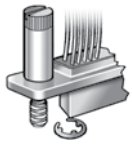
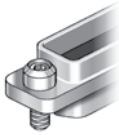
TABLE I: SHELL FINISH

SYM	MATERIAL	FINISH DESCRIPTION
1	Aluminum	Cadmium
2	Aluminum	Nickel
5	Aluminum	Gold
6	Aluminum	Chem Film
33	Aluminum	Ni-PTFE *1000 Hour Grey™*

TABLE III: 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

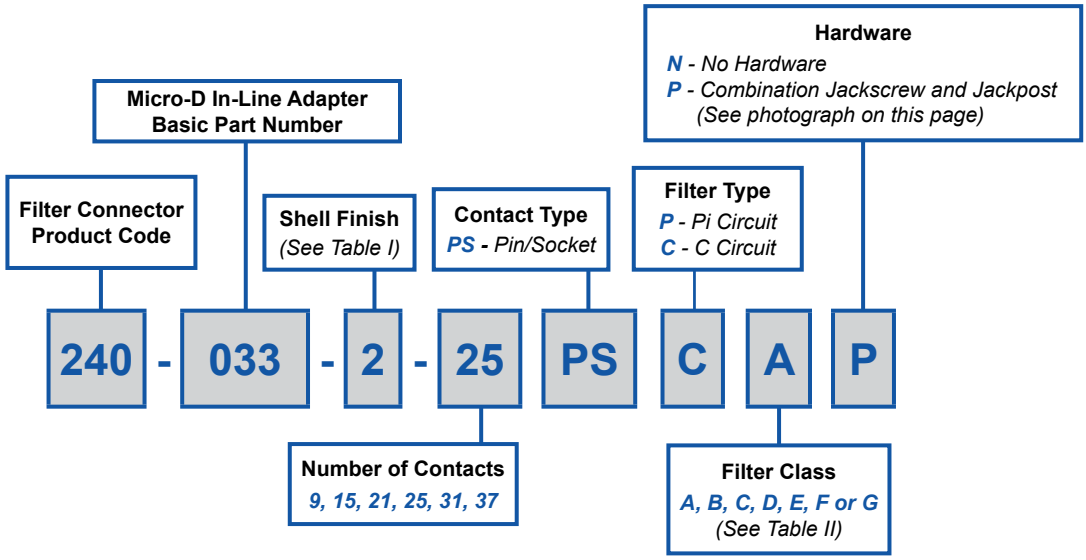
TABLE II: MICRO-D MOUNTING HARDWARE

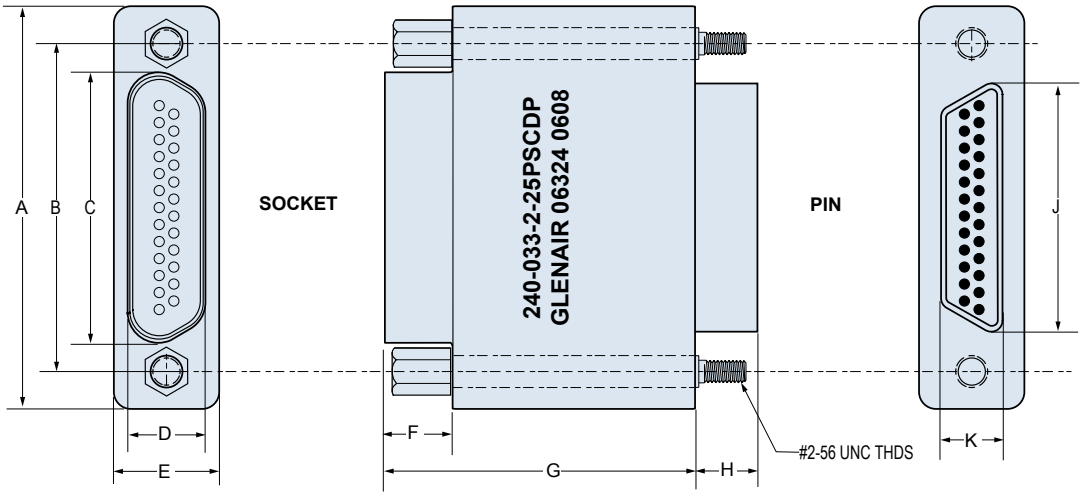
B	P	M	M1	S	S1	L	K	F	R
									
Thru-Hole Order Hardware Separately	**Jackpost** Removable Includes Nut and Washer	**Jackscrew** Hex Head Removable E-ring	**Jackscrew** Hex Head Removable E-ring Extended	**Jackscrew** Slot Head Removable E-ring	**Jackscrew** Slot Head Removable E-ring Extended	**Jackscrew** Hex Head Non-Removable	**Jackscrew** Slot Head Non-Removable Extended	**Float Mount** For Front Panel Mounting	**Float Mount** For Rear Panel Mounting

MICRO-D FILTER PIGTAIL DIMENSIONS

Layout	A Max. In.	A Max. mm.	B In. ± .003	B mm. ± 0.08	C Max. In.	C Max. mm.	D Max. In.	D Max. mm.	F In. ± .004	F mm. ± 0.10	H Max. In.	H Max. mm.
9P	.785	19.94	.565	14.35	.333	8.46	.184	4.67	.183	4.65	.400	10.16
9S	.785	19.94	.565	14.35	.400	10.16	.250	6.35	.195	4.95	.400	10.16
15P	.935	23.75	.715	18.16	.483	12.27	.184	4.67	.183	4.65	.550	13.97
15S	.935	23.75	.715	18.16	.551	14.00	.250	6.35	.195	4.95	.550	13.97
21P	1.085	27.56	.865	21.97	.633	16.08	.184	4.67	.183	4.65	.700	17.78
21S	1.085	27.56	.865	21.97	.701	17.81	.250	6.35	.195	4.95	.700	17.78
25P	1.185	30.01	.965	24.51	.733	18.62	.184	4.67	.183	4.65	.800	20.32
25S	1.185	30.01	.965	24.51	.801	20.35	.250	6.35	.195	4.95	.800	20.32
31P	1.335	33.91	1.115	28.32	.883	22.43	.184	4.67	.183	4.65	.950	24.13
31S	1.335	33.91	1.115	28.32	.951	24.16	.250	6.35	.195	4.95	.950	24.13
37P	1.485	37.72	1.265	32.13	1.033	26.24	.184	4.67	.183	4.65	1.100	27.94
37S	1.485	37.72	1.265	32.13	1.101	27.96	.250	6.35	.195	4.95	1.100	27.94

240-033
Micro-D Filter Connectors
Pin-Socket In-Line Filter Adapters





Avoid Costly Redesign with Micro-D Filter Adapters.
Upgrade your existing cables and boxes to meet EMI requirements. These pin-socket adapters can be plugged into any standard M83513 connectors. Simply unplug your existing cable, install the filter adapter, and plug the cable into the adapter.

Availability: Filter elements in stock. Products ship in two weeks or less. Contact factory for price and delivery.

240-033
Micro-D Filter Connectors
Pin-Socket In-Line Filter Adapters

Glenair®

TABLE I: SHELL FINISH

SYM	MATERIAL	FINISH DESCRIPTION
1	Aluminum	Cadmium
2	Aluminum	Nickel
5	Aluminum	Gold
6	Aluminum	Chem Film
33	Aluminum	Ni-PTFE *1000 Hour Grey™*

TABLE II: 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

MICRO-D IN-LINE FILTER ADAPTER CONTACT ARRANGEMENTS

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

D

MICRO-D FILTER INLINE DIMENSIONS

Layout	A Max. In.	A Max. mm.	B In. ± .003	B mm. ±0.08	C Max. In.	C Max. mm.	D Max. In.	D Max. mm.	E Max. In.	E Max. mm.	F In. ± .004	F mm. ±0.10	G Max. In.	G Max. mm.	H In. ± .004	H mm. ±0.10	J Max. In.	J Max. mm.	K Max. In.	K Max. mm.
9PS	.785	19.94	.565	14.35	.400	10.16	.250	6.35	.310	7.87	.195	4.95	1.400	35.56	.183	4.65	.333	8.46	.184	4.67
15PS	.935	23.75	.715	18.16	.551	14.00	.250	6.35	.310	7.87	.195	4.95	1.400	35.56	.183	4.65	.483	12.27	.184	4.67
21PS	1.085	27.56	.865	21.97	.701	17.81	.250	6.35	.310	7.87	.195	4.95	1.400	35.56	.183	4.65	.633	16.08	.184	4.67
25PS	1.185	30.01	.965	24.51	.801	20.35	.250	6.35	.310	7.87	.195	4.95	1.400	35.56	.183	4.65	.733	18.62	.184	4.67
31PS	1.335	33.91	1.115	28.32	.951	24.16	.250	6.35	.310	7.87	.195	4.95	1.400	35.56	.183	4.65	.883	22.43	.184	4.67
37PS	1.485	37.72	1.265	32.13	1.101	27.96	.250	6.35	.310	7.87	.195	4.95	1.400	35.56	.183	4.65	1.033	26.24	.184	4.67

240-034
Micro-D Filter Connectors
Right Angle Printed Circuit Board

Micro-D Right Angle PCB Basic Part Number

Filter Connector Product Code	Shell Finish (See Table I)	Contact Type	Filter Type	PC Tail Length (Inches)
		P - Pin *S* - Socket	*P* - Pi Circuit *C* - C Circuit	*.080, .110, .125, .150, .190, .250*

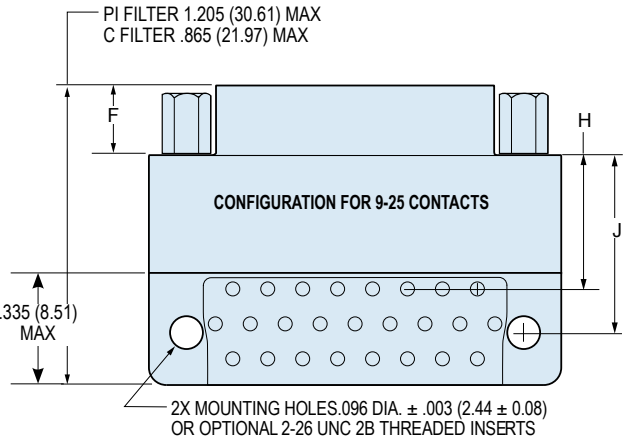
240 - 034 - 2 - 37 S P E PU - .080

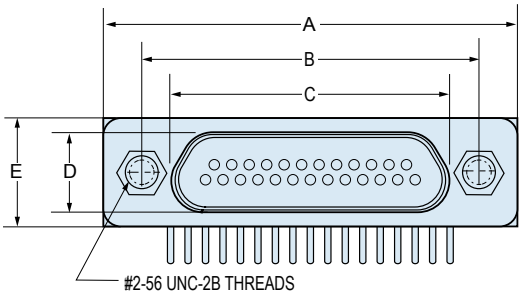
Number of Contacts
9, 15, 21, 25, 31, 37

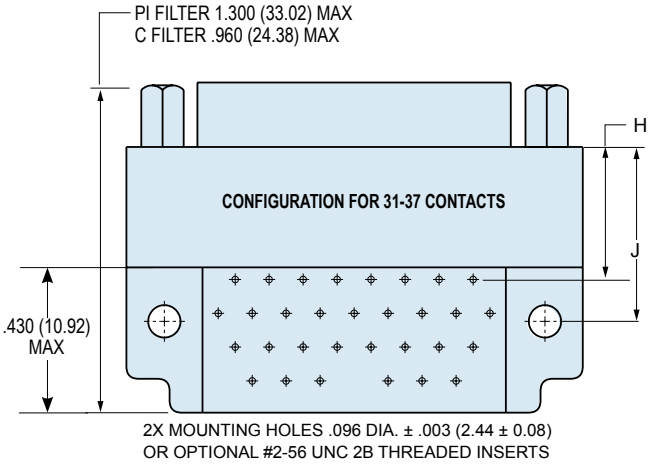
Filter Class
A, B, C, D, E, F or G
(See Table II)

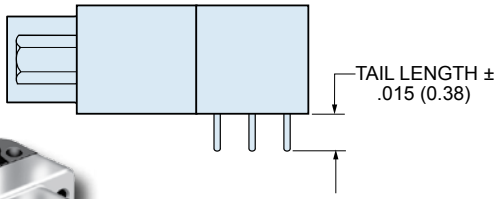
Hardware Option
NN - No Jackpost, No Threaded Insert
PN - Jackpost, No Threaded Insert
NU - Threaded Insert Only, No Jackposts
PU - Jackpost and Threaded Insert

Rear Panel Jackposts with Threaded Insert:
R6U - 0.125" (3.2) Panel
R5U - 0.094" (2.4) Panel
R4U - 0.062" (1.6) Panel
R3U - 0.047" (1.2) Panel
R2U - 0.031" (0.8) Panel









Right Angle Board Mount Filtered Micro-D's. These connectors feature low-pass EMI filtering in a right angle header for PCB termination.

.100" x .100" Board Spacing—These connectors are similar to "CBR" style Micro-D's and share the same board footprint, allowing retrofit to existing boards.

TABLE I: SHELL FINISH

SYM	MATERIAL	FINISH DESCRIPTION
1	Aluminum	Cadmium
2	Aluminum	Nickel
5	Aluminum	Gold
6	Aluminum	Chem Film
33	Aluminum	Ni-PTFE *1000 Hour Grey™*

TABLE II: 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

MICRO-D FILTER CLASSES AND PERFORMANCE

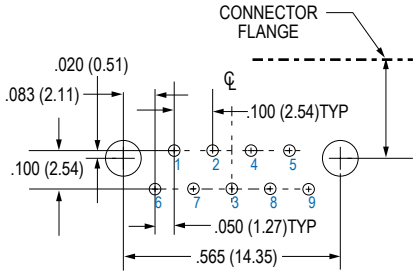
Filter Class →	A		B		C		D		E		F		G	
Capacitance, Picofarads (pF)														
C Filter	19000-28000		16000-22500		9000-16500		4000-6000		1650-2500		400-650		200-300	
Pi Filter	38000-56000		32000-45000		18000-33000		8000-12000		3300-5000		800-1300		400-600	
Insertion Loss, dB Minimum, 25° C.														
Filter Type →	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
500-1000 MHz	50	66	49	62	46	60	41	58	34	52	23	32	17	22

MICRO-D FILTER RIGHT ANGLE PCB CONNECTORS

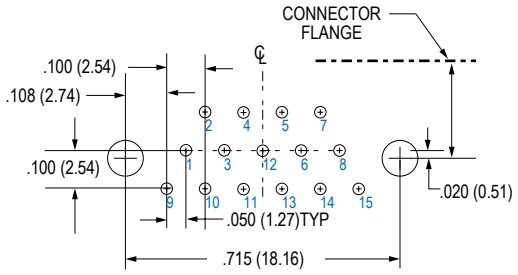
	A Max.		B		C Max.		D Max.		E Max.		F		G Max.		C Filter				Pi Filter			
															H		J		H		J	
Layout	In.	mm.	In. ±.003	mm. ±0.08	In.	mm.	In.	mm.	In.	mm.	In. ±.004	mm. ±0.10	In.	mm.	In. ±.010	mm. ±0.25	In. ±.010	mm. ±0.25	In. ±.010	mm. ±0.25	In. ±.010	mm. ±0.25
9P	.785	19.94	.565	14.35	.333	8.46	.184	4.67	.310	7.87	.183	4.65	.420	10.67	.440	11.18	.460	11.68	.740	18.80	.760	19.30
9S	.785	19.94	.565	14.35	.400	10.16	.250	6.35	.310	7.87	.195	4.95	.420	10.67	.440	11.18	.460	11.68	.740	18.80	.760	19.30
15P	.935	23.75	.715	18.16	.483	12.27	.184	4.67	.310	7.87	.183	4.65	.420	10.67	.340	8.64	.460	11.68	.640	16.26	.760	19.30
15S	.935	23.75	.715	18.16	.551	14.00	.250	6.35	.310	7.87	.195	4.95	.420	10.67	.340	8.64	.460	11.68	.640	16.26	.760	19.30
21P	1.085	27.56	.865	21.97	.633	16.08	.184	4.67	.310	7.87	.183	4.65	.420	10.67	.340	8.64	.460	11.68	.640	16.26	.760	19.30
21S	1.085	27.56	.865	21.97	.701	17.81	.250	6.35	.310	7.87	.195	4.95	.420	10.67	.340	8.64	.460	11.68	.640	16.26	.760	19.30
25P	1.185	30.01	.965	24.51	.733	18.62	.184	4.67	.310	7.87	.183	4.65	.420	10.67	.340	8.64	.460	11.68	.640	16.26	.760	19.30
25S	1.185	30.01	.965	24.51	.801	20.35	.250	6.35	.310	7.87	.195	4.95	.420	10.67	.340	8.64	.460	11.68	.640	16.26	.760	19.30
31P	1.335	33.91	1.115	28.32	.883	22.43	.184	4.67	.310	7.87	.183	4.65	.520	13.21	.340	8.64	.460	11.68	.640	16.26	.760	19.30
31S	1.335	33.91	1.115	28.32	.951	24.16	.250	6.35	.310	7.87	.195	4.95	.520	13.21	.340	8.64	.460	11.68	.640	16.26	.760	19.30
37P	1.485	37.72	1.265	32.13	1.033	26.24	.184	4.67	.310	7.87	.183	4.65	.520	13.21	.340	8.64	.460	11.68	.640	16.26	.760	19.30
37S	1.485	37.72	1.265	32.13	1.101	27.96	.250	6.35	.310	7.87	.195	4.95	.520	13.21	.340	8.64	.460	11.68	.640	16.26	.760	19.30

240-034
Micro-D Filter Connectors
Right Angle Printed Circuit Board Layouts
Pin Connector

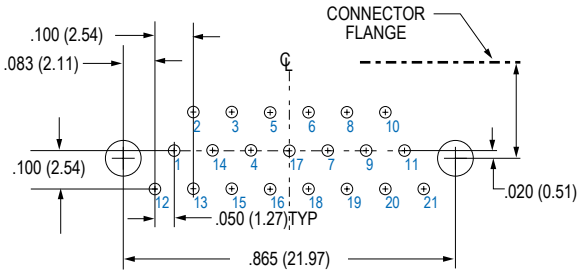
PC Tail Diameter .018 ± .002 (0.46 ± 0.05)
Contact numbers shown are for pin connectors.
Patterns shown are for connector mounting side of PC board.



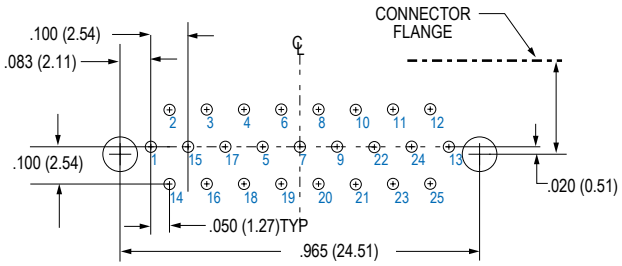
9 Contacts



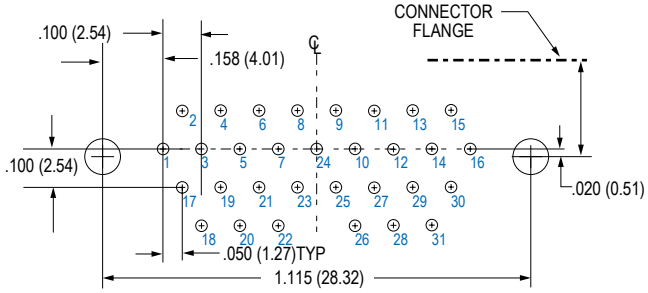
15 Contacts



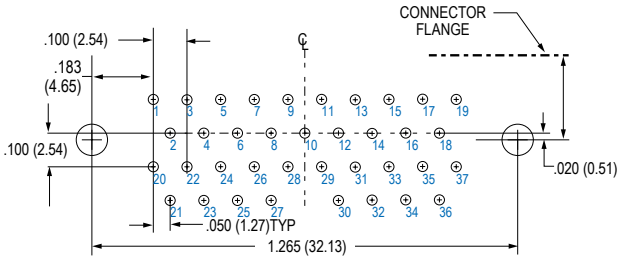
21 Contacts



25 Contacts

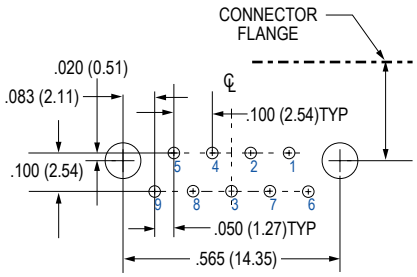


31 Contacts

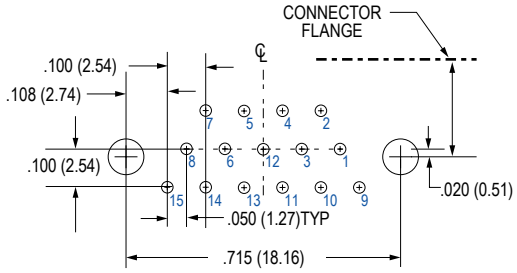


37 Contacts

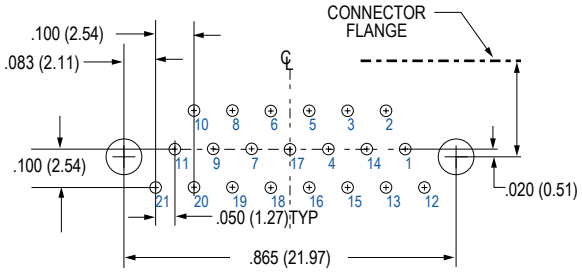
PC Tail Diameter .018 ± .002 (0.46 ± 0.05)
Contact numbers shown are for socket connectors.
Patterns shown are for connector mounting side of PC board.



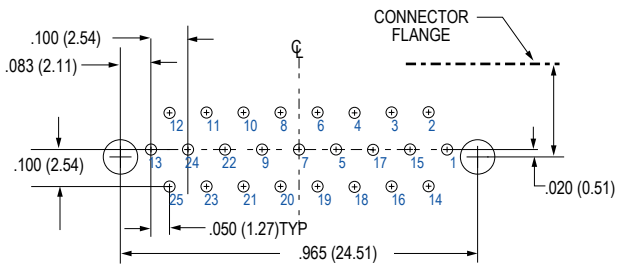
9 Contacts



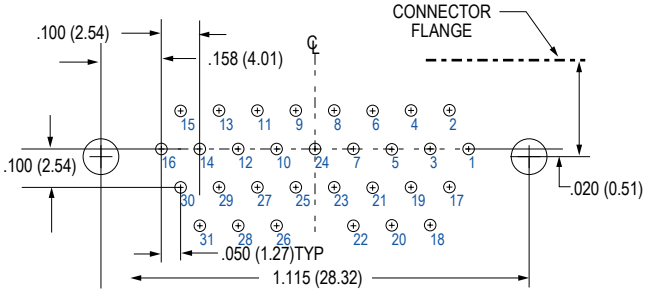
15 Contacts



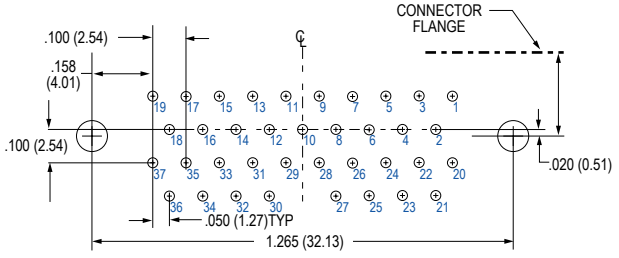
21 Contacts



25 Contacts



31 Contacts



37 Contacts

Four Reasons to Add Glenair to Your Short List of Suppliers:

First and foremost you need availability.

Are the products and components you need either in stock or able to be manufactured in a short period of time? Glenair has built its reputation on fast turnaround. We maintain the world's largest inventory of connector accessories and deliver faster turnaround on quotes and orders than anyone else in our business. Today, Glenair is changing the way the interconnect industry operates: from a long lead-time, custom order problem, to a fast response, in-stock solution.

Second, you need capacity.

Can the supplier respond to your evolving requirements with the factory capacity and labor necessary to meet every demand—from one piece to one hundred thousand? Glenair has built the largest capacity, broadest capability factory in the interconnect accessory industry. We have the knowledge, experience and equipment necessary to handle any production requirement, no matter how large or complex, and the manpower to tackle even the most aggressive production schedules.

Third, you need convenience in ordering.

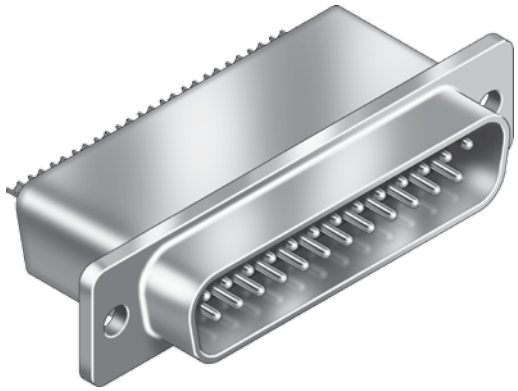
Do your current suppliers insist on quantity or dollar minimums whenever you place an order? Are their products available only from distributors with limited product knowledge and equally limited shelf stock? Is it hard to get samples when and where you need them? If your answer to any of these questions is yes, we encourage you to consider Glenair, where complete convenience in ordering—your convenience, not ours—has been a guiding principle since 1956.

Finally, you need top quality products backed by outstanding technical support.

At Glenair, we've made product quality and worldwide technical support a major part of our approach to earning your trust and loyalty—and we've been doing so since 1956. We've established an unsurpassed sales, support and engineering presence in every major market in the world, and we've designed quality into every product we ship.

In every respect, our formula for serving our filter connector customers is identical to the "best-value" service model we've relied on to maintain our leadership position in our core, connector accessory business:

- ***Same-Day Delivery on Our Most Popular Part Numbers***
- ***Lightning-Fast Turnaround on Quotes for Price and Delivery***
- ***No Price or Quantity Minimums***
- ***Outstanding Application Engineering and Worldwide Technical Support***



PRODUCT FEATURES

Glenair's Filtered D-Subs provide EMI solutions in a miniaturized MIL-DTL-24308 type connector. These connectors feature ceramic capacitor planar arrays and ferrite inductors. Solder cup contacts accept 22 gage wire.

Choose Pi or C Filter Arrays in seven filter classes and eleven layouts. Glenair filtered D-Sub connectors comply with applicable MIL-DTL-24308 requirements and are 100% intermateable with both standard density and high density connectors.

Choose 9 to 104 Contacts, with yellow cadmium, nickel or zinc-nickel plating on the connector housing. Ultra rugged stainless steel is available for most applications. For custom requirements we can propose a solution and back it up with rapid design and prototyping.

MIL-DTL-24308 Type D-Sub Filtered Connectors

The Standard Solution to Electronic Black Box EMI/EMP Protection

Filtered D-Sub with Solder Cup or PC Tails

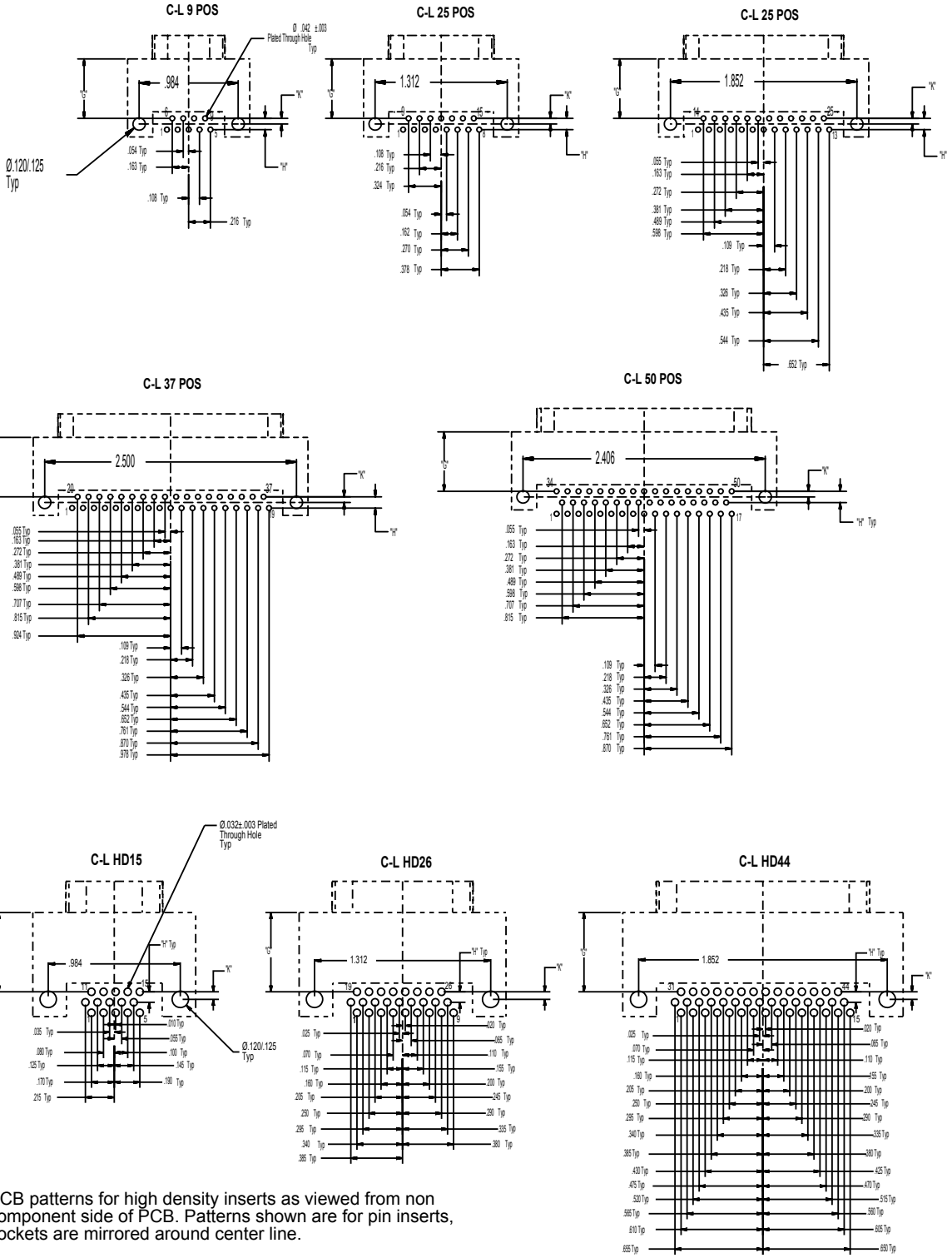
These metal shell filtered MIL-DTL-24308 connectors are backfilled with thermally conductive epoxy to allow soldering without heat damage to sensitive filter elements. Standard density and high density versions are available for every insert arrangement.

Filtered Right Angle Version with PC Tails

Designed to mate with the popular MIL-DTL-24308 connector family, these right angle PC tail filter connectors are available in Mil-Aero and European footprints. A single piece metal shell provides structual integrity for board mounting and eliminates "flaky" right angle mounting tabs.

Panel Cut-Out and Footprints for 240-021 and 240-066 D-Subminiature Connectors

EMI Filtered (MIL-DTL-24308 Type)

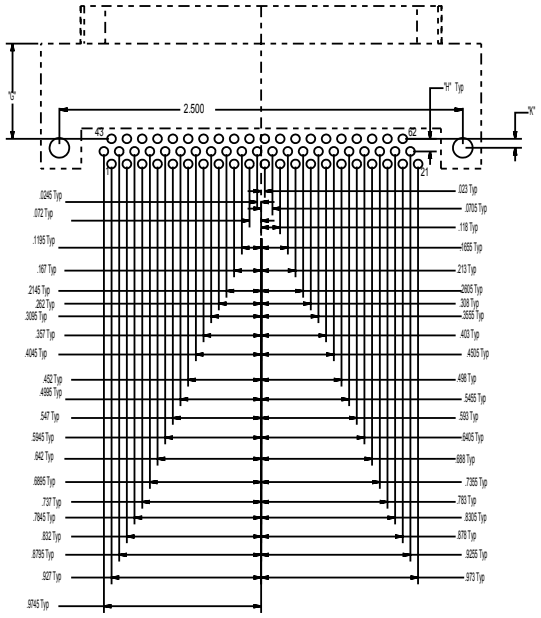


PCB patterns for high density inserts as viewed from non component side of PCB. Patterns shown are for pin inserts, sockets are mirrored around center line.

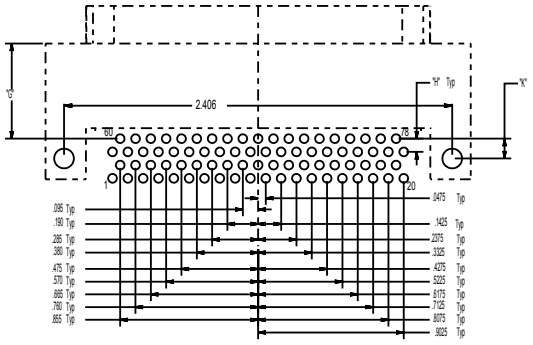
Panel Cut-Out and Footprints for 240-021 and 240-066 D-Subminiature Connectors

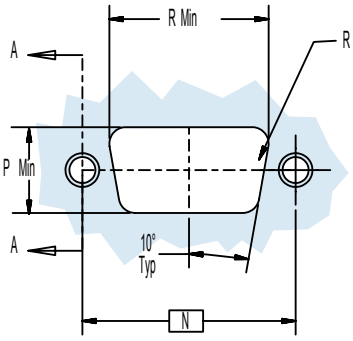
EMI Filtered (MIL-DTL-24308 Type)

C-L HD62

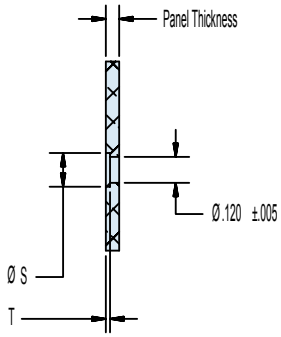


C-L HD78





Panel mount cutout recommendations as viewed from front face of panel.



SECTION A-A
TYP 2 PL

C-L HD104

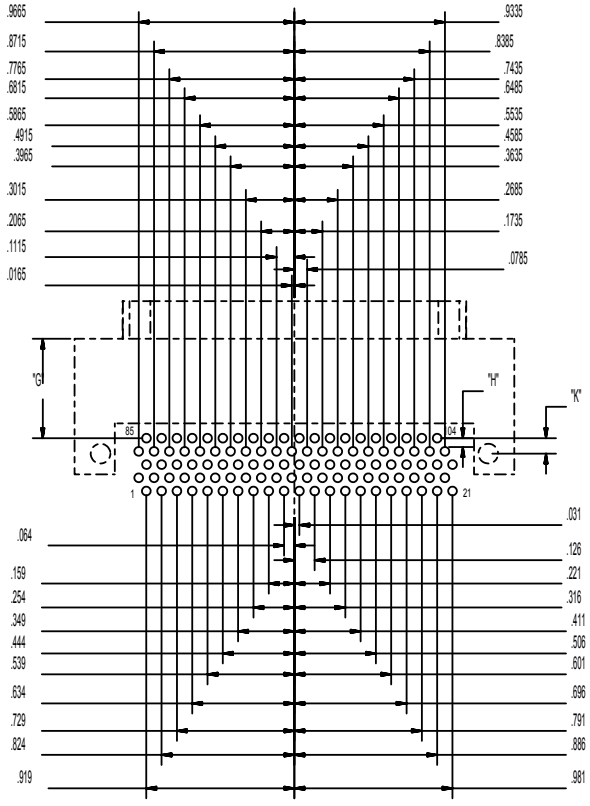


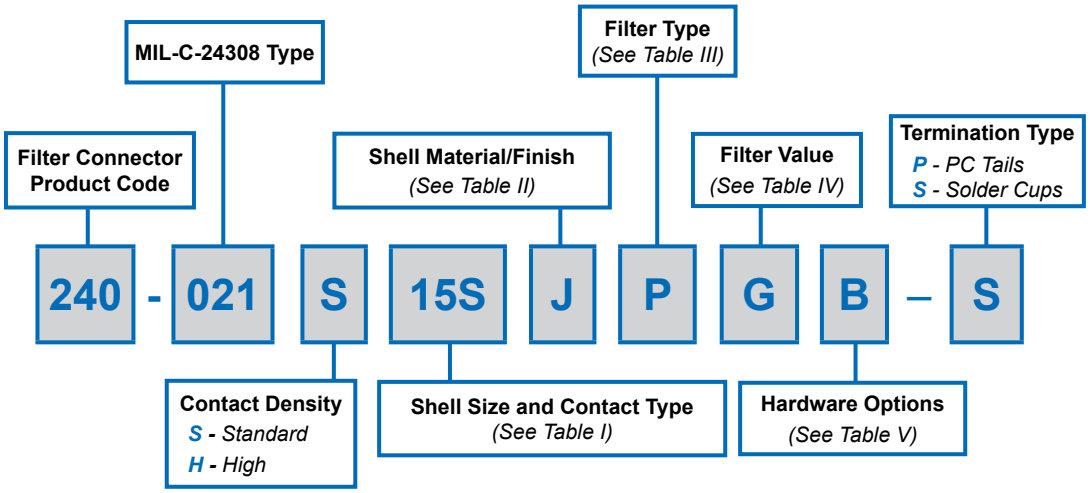
TABLE VI: CUT-OUT DIMENSIONS

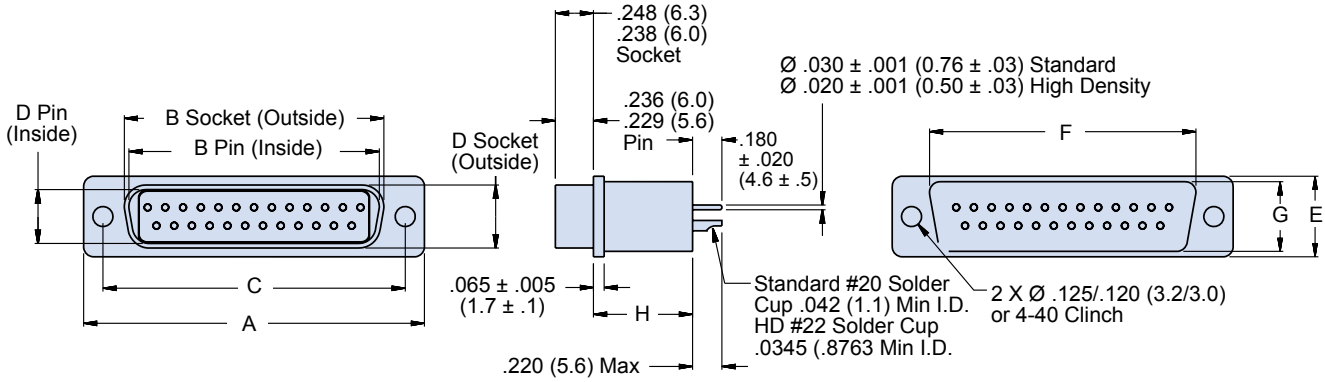
Shell Size	N BSC	P Min	R Min
1	.984 (25.0)	.396 (10.1)	.735 (18.7)
2	1.312 (33.3)	.396 (10.1)	1.060 (26.9)
3	1.852 (47.0)	.396 (10.1)	1.603 (40.7)
4	2.500 (63.5)	.396 (10.1)	2.251 (57.2)
5	2.406 (61.1)	.510 (13.0)	2.148 (55.0)
6	2.500 (63.5)	.630 (16.0)	2.276 (57.8)

TABLE VII: PANEL THICKNESS

Panel Code	Panel Thickness	S	T
R1	.031 (0.79)	N/A	N/A
R2	.047 (1.19)	.157/.199 (4.0/5.1)	.005 (0.13)
R3	.062 (1.57)	.157/.199 (4.0/5.1)	.020 (0.50)
R4	.093 (2.36)	.157/.199 (4.0/5.1)	.051 (1.30)
R5	.104 (2.64)	.157/.199 (4.0/5.1)	.061 (1.55)
R6	.125 (3.18)	.157/.199 (4.0/5.1)	.082 (2.08)
R7	.156 (3.96	.157/.199 (4.0/5.1)	.114 (2.90)

240-021
D-Subminiature Connector
EMI Filtered (MIL-DTL-24308 Type)



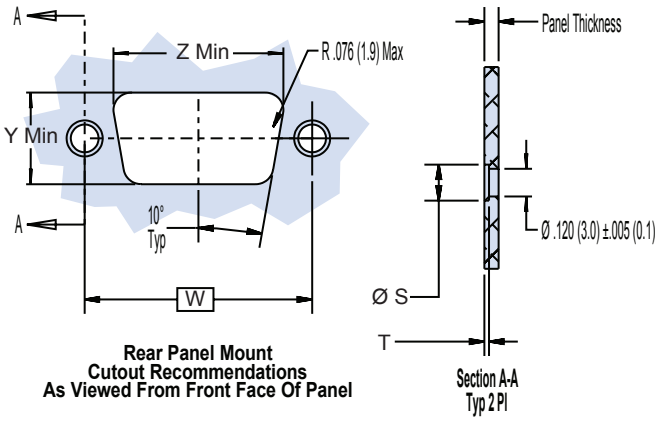


APPLICATION NOTES

1. Materials/Finishes:
   Shells - See Table II
   Insulators - High grade rigid dielectric/N.A.
   Contacts - Copper Alloy/Gold Plated
2. Assembly to be indentified with date code, cage code, Glenair P/N, and serial number
3. Electrical Performance:
   Dielectric withstanding voltage class A and B: 100 VDC
   All others: 500 VDC
   Insulation resistance: 5,000 megohms @ 100 VDC
   Current Rating Standard Density: 7.5 Amps maximum
   Current Rating High Density: 5 Amps maximum
4. Dimensions B and D taken from inside of shell for Pin/Plug and outside for Socket/Receptacle
5. Metric dimensions (mm) are indicated in parentheses

TABLE I: DIMENSIONS

Shell Size	Number of Contacts		A ±.015 (0.38)	B ±.005 (0.13)	C ±.005 (0.13)	D ±.005 (0.13)	E ±.015 (0.38)	F Max	G Max
	STD	HD							
1	9P	15P	1.213 (30.8)	.666 (16.9)	.984 (25.0)	.329 (8.4)	.494 (12.5)	.769 (19.5)	.432 (11.0)
	9S	15S	1.213 (30.8)	.643 (16.3)	.984 (25.0)	.311 (7.9)	.494 (12.5)	.769 (19.5)	.432 (11.0)
2	15P	26P	1.541 (39.1)	.994 (25.2)	1.312 (33.3)	.329 (8.4)	.494 (12.5)	1.093 (27.8)	.432 (11.0)
	15S	26S	1.541 (39.1)	.971 (24.7)	1.312 (33.3)	.311 (7.9)	.494 (12.5)	1.093 (27.8)	.432 (11.0)
3	25P	44P	2.088 (53.0)	1.534 (39.0)	1.852 (47.0)	.329 (8.4)	.494 (12.5)	1.635 (41.5)	.432 (11.0)
	25S	44S	2.088 (53.0)	1.511 (38.4)	1.852 (47.0)	.311 (7.9)	.494 (12.5)	1.635 (41.5)	.432 (11.0)
4	37P	62P	2.729 (69.3)	2.182 (55.4)	2.500 (63.5)	.329 (8.4)	.494 (12.5)	2.282 (58.0)	.432 (11.0)
	37S	62S	2.729 (69.3)	2.159 (54.8)	2.500 (63.5)	.311 (7.9)	.494 (12.5)	2.282 (58.0)	.432 (11.0)
5	50P	78P	2.635 (66.9)	2.079 (52.8)	2.406 (61.1)	.441 (11.2)	.605 (15.4)	2.188 (55.6)	.544 (13.8)
	50S	78S	2.635 (66.9)	2.064 (52.4)	2.406 (61.1)	.423 (10.7)	.605 (15.4)	2.188 (55.6)	.544 (13.8)
6	X	104P	2.729 (69.3)	2.212 (56.2)	2.500 (63.5)	.503 (12.8)	.668 (17.0)	2.312 (58.7)	.606 (15.4)
		104S	2.729 (69.3)	2.189 (55.6)	2.500 (63.5)	.486 (12.3)	.668 (17.0)	2.312 (58.7)	.606 (15.4)



Rear Panel Mount
Cutout Recommendations
As Viewed From Front Face Of Panel

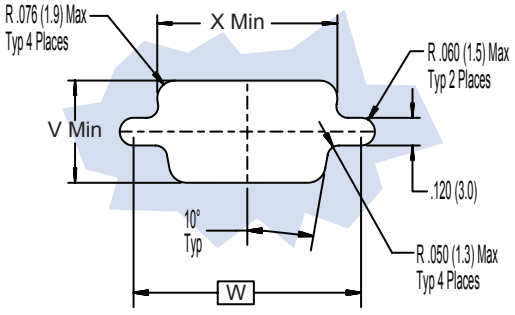
Section A-A
Typ 2 Pl

TABLE V: HARDWARE OPTIONS

Symbol	Hardware
B	No Hardware
C	4-40 Clinch Nut

TABLE VI: CUT-OUT DIMENSIONS

Shell Size	V Min	W BSC	X MIN	Y MIN	Z MIN
1	.442 (11.2)	.984 (25.0)	.779 (19.8)	.396 (10.1)	.735 (18.7)
2	.442 (11.2)	1.312 (33.3)	1.110 (28.2)	.396 (10.1)	1.060 (26.9)
3	.442 (11.2)	1.852 (47.0)	1.649 (41.9)	.396 (10.1)	1.603 (40.7)
4	.442 (11.2)	2.500 (63.5)	2.296 (58.3)	.396 (10.1)	2.251 (57.2)
5	.554 (14.1)	2.406 (61.1)	2.198 (55.8)	.510 (13.0)	2.148 (55.0)
6	.616 (15.6)	2.500 (63.5)	2.322 (59.0)	.630 (16.0)	2.276 (57.8)



Front Panel Mount
Cutout Recommendations

TABLE IV: CAPACITOR ARRAY CODE AND CAPACITANCE RANGE

Class	Pl-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

TABLE VII: PANEL THICKNESS

Panel Code	Panel Thickness	S	T
R1	.031 (0.79)	N/A	N/A
R2	.047 (1.19)	.156/.199 (4.0/5.1)	.005 (0.13)
R3	.062 (1.57)	.156/.199 (4.0/5.1)	.020 (0.50)
R4	.093 (2.36)	.156/.199 (4.0/5.1)	.051 (1.30)
R5	.104 (2.64)	.156/.199 (4.0/5.1)	.061 (1.55)
R6	.125 (3.18)	.156/.199 (4.0/5.1)	.082 (2.08)
R7	.156 (3.96)	.156/.199 (4.0/5.1)	.114 (2.90)

240-066
D-Subminiature Connector, Right Angle Mount
EMI Filtered (MIL-DTL-24308 Type)

MIL-C-2483 Type

Filter Connector Product Code

Contact Density
S = Standard
H = High

Shell Material/Finish
(See Table II)

Filter Value
(See Table IV)

Footprint Type
M = Mil-Spec
E = European
(See Table V)

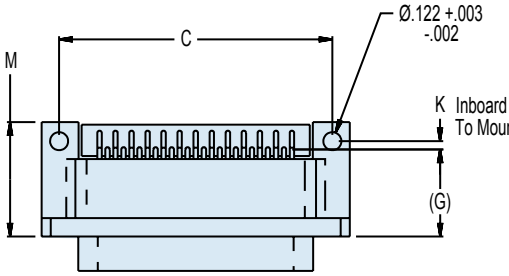
240	-	066	S	-	15P	J	C	A	C	M	-	G

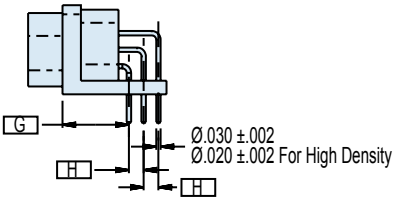
Shell Size and Contact Type
(See Table I)

Filter Value
(See Table III)

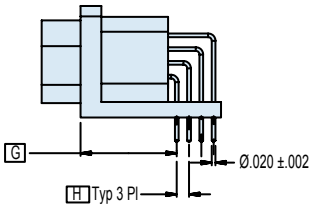
Mounting Options
B = Through Hole
C = 4-40 Insert
M = Metric Thread (M3)

Shell to Shell Grounding
G = With Ground (Plug/Pin Only)
N = No Ground

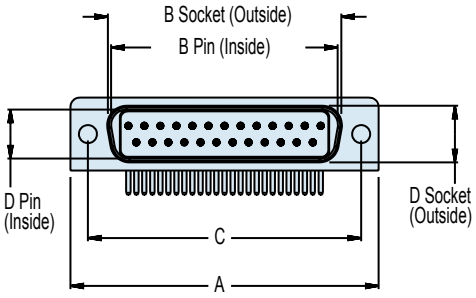


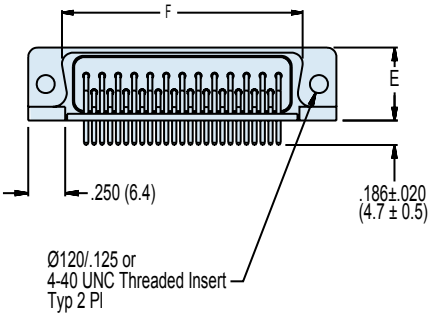


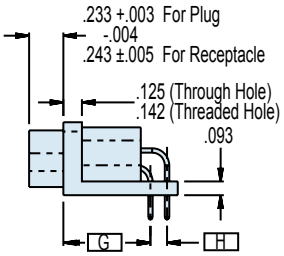
HIGH DENSITY (15 THRU 62) AND STANDARD DENSITY 50 POS



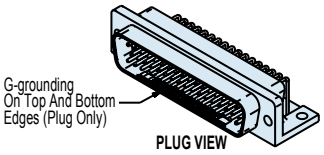
HIGH DENSITY 78 POSITION



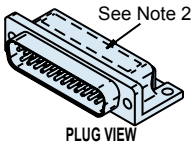




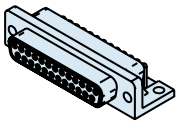
STANDARD DENSITY (9 THRU 37)



PLUG VIEW



PLUG VIEW



RECEPTACLE VIEW

APPLICATION NOTES

1. Materials/Finishes:
   Shells - See Table II
   Insulators - High grade rigid dielectric/N.A.
   Contacts - Copper Alloy/Gold Plated
2. Assembly to be indentified with date code, cage code, Glenair P/N, and serial number.
3. Dimensions B and D taken from inside of shell for Pin/Plug and outside for Socket/Receptacle.
4. Electrical Performance:
   Dielectric withstanding voltage class A and B: 100 VDC, all others: 500 VDC
   Insulation Resistance: 5,000 megohms @ 100 VDC
   Current Rating Standard Density: 7.5 Amps max.
   Current Rating High Density: 5 Amps maximum
5. Metric dimensions (mm) are indicated in parentheses.

TABLE I: DIMENSIONS

Shell Size	Number of Contacts STD	HD	A ±.015 (0.38)	B ±.005 (0.13)	C ±.005 (0.13)	D ±.005 (0.13)	E ±.015 (0.38)	F Max
1	9P	15P	1.213 (30.8)	.666 (16.9)	.984 (25.0)	.329 (8.4)	.494 (12.5)	.769 (19.5)
	9S	15S	1.213 (30.8)	.643 (16.3)	.984 (25.0)	.311 (7.9)	.494 (12.5)	.769 (19.5)
2	15P	26P	1.541 (39.1)	.994 (25.2)	1.312 (33.3)	.329 (8.4)	.494 (12.5)	1.093 (27.8)
	15S	26S	1.541 (39.1)	.971 (24.7)	1.312 (33.3)	.311 (7.9)	.494 (12.5)	1.635 (41.5)
3	25P	44P	2.088 (53.0)	1.534 (39.0)	1.852 (47.0)	.329 (8.4)	.494 (12.5)	1.635 (41.5)
	25S	44S	2.088 (53.0)	1.511 (38.4)	1.852 (47.0)	.311 (7.9)	.494 (12.5)	1.635 (41.5)
4	37P	62P	2.729 (69.3)	2.182 (55.4)	2.500 (63.5)	.441 (11.2)	.494 (12.5)	2.282 (58.0)
	37S	62S	2.729 (69.3)	2.159 (54.8)	2.500 (63.5)	.423 (10.7)	.494 (12.5)	2.282 (58.0)
5	50P	78P	2.635 (66.9)	2.079 (52.8)	2.406 (61.1)	.503 (12.8)	.605 (15.4)	2.188 (55.6)
	50S	78S	2.635 (66.9)	2.064 (52.4)	2.406 (61.1)	.486 (12.3)	.605 (15.4)	2.188 (55.6)
6	X	104P	2.729 (69.3)	2.212 (56.2)	2.500 (63.5)	.503 (12.8)	.668 (17.0)	2.312 (58.7)
		104S	2.729 (69.3)	2.189 (55.6)	2.500 (63.5)	.486 (12.3)	.668 (17.0)	2.312 (58.7)

TABLE II: SHELL MATERIAL/FINISH

Symbol	Material	Finish Description
J	Aluminum	Yellow Cadmium
M		Electroless Nickel
MT		NI-PTFE 1000 Hour Grey™ Nickel Fluorocarbon Polymer
P	Stainless Steel	Electro Deposited Nickel
ZN	Aluminum	Zinc Nickel

TABLE III: FILTER TYPE

Sym	Filter Type	"G" Basic
P	Pi-Circuit	.590 (15.0)
C	C-Circuit	.450 (11.4)

TABLE IV: CAPACITOR ARRAY CODE and CAPACITANCE RANGE

Class	Pi-Section (pF)	C-Section (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

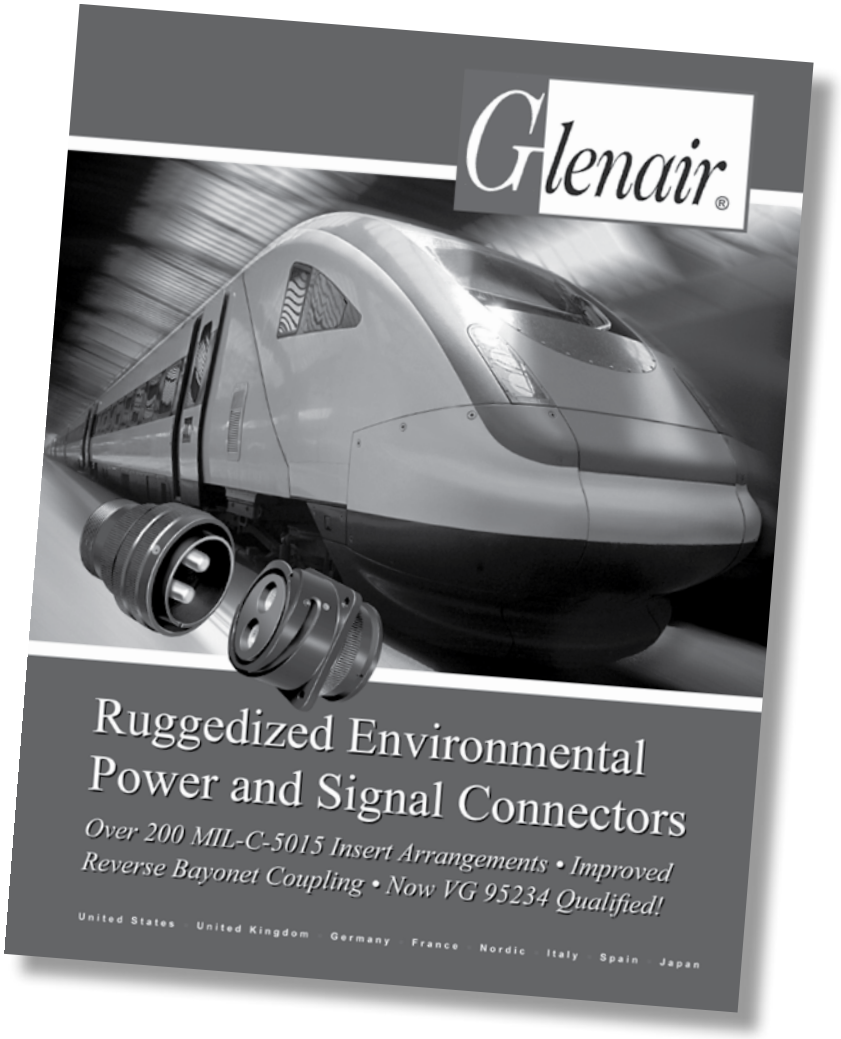
E

TABLE V: DIMENSIONS

Contact Density	No. of Contacts	Footprint Type	H Dim Basic	K Dim Basic	M Dim Basic M Dim	M Dim Basic C Filter
Standard Density	9-37	Mil-Aero	.112 (2.8)	.056 (1.4)	.777 (19.7)	.637 (16.2)
		Euro Style	.100 (2.5)	.050 (1.3)	.765 (19.4)	.625 (15.9)
	50	Mil-Aero	.112 (2.8)	.112 (2.8)	.889 (22.6)	.749 (19.0)
		Euro Style	.100 (2.5)	.100 (2.5)	.865 (22.0)	.725 (18.4)
High Density	15-62	Mil-Aero	.078 (2.0)	.078 (2.0)	.821 (20.9)	.625 (15.9)
		Euro Style	.100 (2.5)	.100 (2.5)	.865 (22.0)	.681 (17.3)
	78	Mil-Aero	.082 (2.1)	.123 (3.12)	.911 (23.1)	.725 (18.4)
		Euro Style	.100 (2.5)	.150 (3.81)	.965 (24.5)	.771 (19.6)
	104	Mil-Aero	.082 (2.1)	.200 (5.08	1.065 (27.1)	.825 (21.0)
		Euro Style	.100 (2.5)	.164 (4.2)	.993 (25.2)	.925 (23.5)

Now Arriving on Track 5015!

Glenair Series ITS
Reverse Bayonet Connectors



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A World of Interconnect Solutions

Glenair ITS Series Reverse Bayonet Power and Signal Filter Connectors (5015 Type)

Product Line Overview

PRODUCT FEATURES

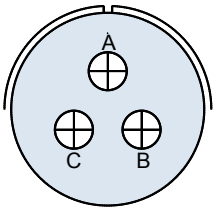
- Fast, Easy Bayonet Coupling Connector: 1/4 Turn
- Ideal for Rail, Industrial and Military Applications
- C Filter Circuits from 200 pF to 120,000 pF
- Low-Pass Multilayer Ceramic Planar Array
- All Shell Styles: Plug, Square Flange, Jam-Nut, etc.
- High Shock and Vibration Resistance
- Contact Sizes from #0 to #8 and #12 in limited Insert Arrangements
- Solder-Cup Terminations
- Intermateable with Veam CIR, Amphenol GT and ITT Cannon CA**B (5015 Type) and all VG 95234 Reverse Bayonet Connectors

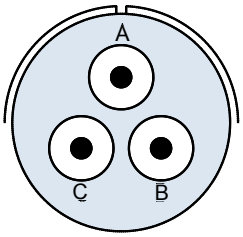
Filtered Solutions for Popular MIL-DTL-5015 Type Industrial, Rail, and Military Bayonet Connectors

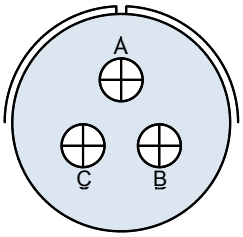
Harsh Application Environments

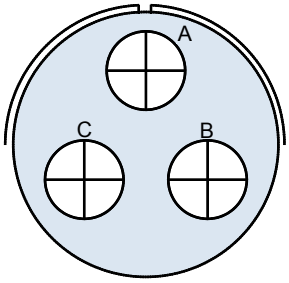
The Glenair Series ITS Reverse Bayonet Power and Signal Connector is ideally suited for all rugged application connections. The reverse bayonet coupling provides faster coupling, especially when the connector is situated in an awkward or hard to reach location. The connector's high resistance to vibration and shock provides reliable mating in even the most rigorous application environments. Environmental protection to IP67 levels provides additional reliability. The following contact arrangements are presented as examples. Consult factory for additional layouts.

Example Contact Arrangements









Arrangement	20-3	20-19	22-9	36-4
Contact Size	12	8	12	0
Service Rating	D	A	E	A=D; B,C=A

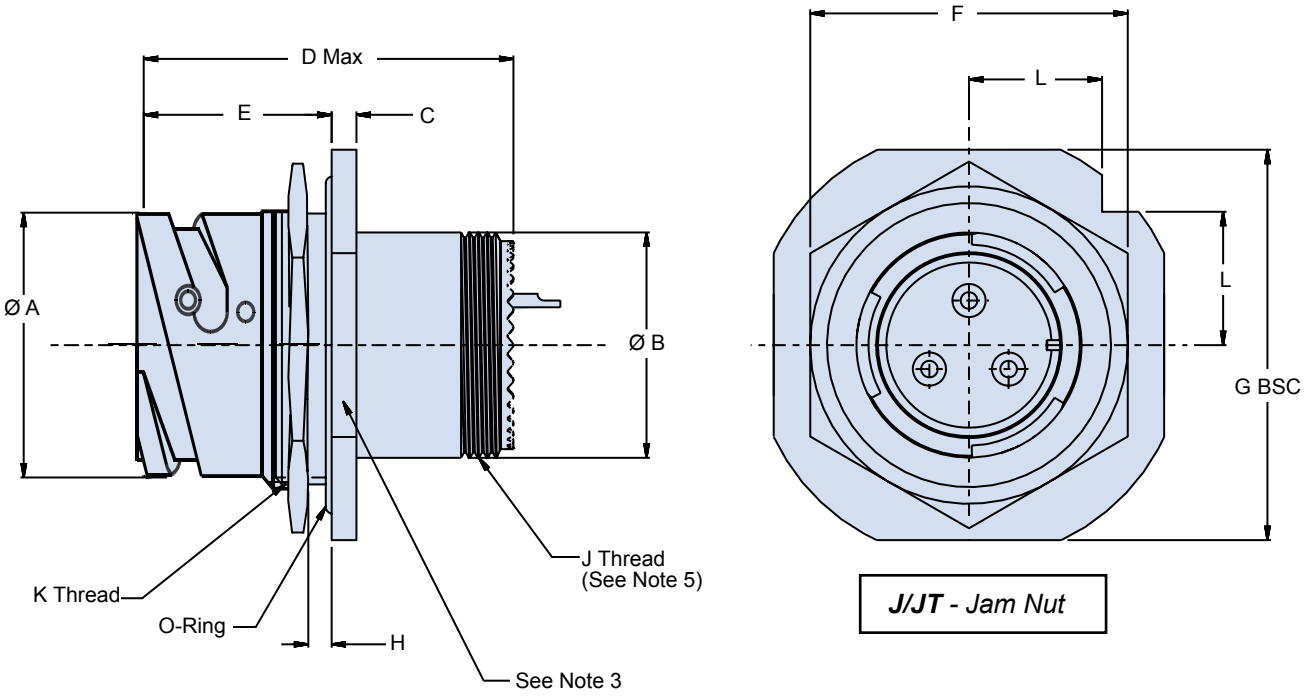
Contact Legend

CAGE Codes 06324

Printed in U.S.A.

240-ITS-J
Jam Nut Mount Filtered Receptacle Connector
(5015 Type) with Reverse Bayonet Coupling

240	-	ITS	-	J	NF	20-3	P	S	C	D	N
Filter Connector Product Code		MIL-C-5015 Type		Shell Style: *J* - Jam Nut; *JT* - Jam Nut with Accessory Thread	Shell Material/Finish (See Table II)	Insert Arrangement Dash Number: 20-3, 20-19, 22-9, 36-4 Contact factory for update	Contact: *P* - Pin; *S* - Socket	Termination Type: *S* - Solder Cup; *P* - PC Tail	Filter Type (C-Circuit)	Capacitance (See Table II)	Alternative Key Position: *N* - Normal



J/JT *- Jam Nut*

APPLICATION NOTES

1. Materials/Finishes:
   Shells - See Table I
   Insulators - High grade thermoplastic/N.A.
   Seals - Fluorosilicone/N.A.
   Contacts - Copper Alloy/Gold Plated
2. EMI Circular Filter Connector designed to meet MIL-DTL-5015
3. Assembly to be indentified with date code, cage code, Glenair P/N, and serial number
4. Electrical Performance:
   A - Capacitance - See Table II
   B - I.R. 5000 Megohms min at 200 VDC
   C - D.W.V. 500 VDC with 100 micro amps max leakage
5. Shell style JT shown
6. Metric dimensions (mm) are indicated in parentheses

CAGE Codes 06324
Printed in U.S.A.

240-ITS-J
Jam Nut Mount Filtered Receptacle Connector
(5015 Type) with Reverse Bayonet Coupling

Glenair®

TABLE I: DIMENSIONS

Shell Size	A Ø +.000 -.004 (+.000 -.102)	B Ø Max	C ±.008 (.203)	D Max	E +.008 -.000 (+.203 -.000)	F ±.004 (.102)	G ±.008 (.203)
10SL	.719 (18.3)	.638 (16.2)	.110 (2.8)	1.400 (35.6)	.728 (18.5)	.719 (18.3)	1.062 (27.0)
14S	.965 (24.5)	.756 (19.2)	.130 (3.3)	1.400 (35.6)	.728 (18.5)	.906 (23.0)	1.312 (33.3)
16S	1.071 (27.2)	.882 (22.4)	.130 (3.3)	1.400 (35.6)	.728 (18.5)	.969 (24.6)	1.438 (36.5)
16	1.071 (27.2)	.882 (22.4)	.130 (3.3)	1.800 (45.7)	.913 (23.2)	.969 (24.6)	1.438 (36.5)
18	1.209 (30.7)	1.008 (25.6)	.157 (4.0)	1.800 (45.7)	.913 (23.2)	1.063 (27.0)	1.562 (39.7)
20	1.339 (34.0)	1.142 (29.0)	.157 (4.0)	1.800 (45.7)	.913 (23.2)	1.157 (29.4)	1.688 (42.9)
22	1.469 (37.3)	1.268 (32.2)	.157 (4.0)	1.800 (45.7)	.913 (23.2)	1.250 (31.8)	1.812 (46.0)
24	1.610 (40.9)	1.390 (35.3)	.157 (4.0)	1.800 (45.7)	.913 (23.2)	1.374 (34.9)	2.000 (50.8)
28	1.839 (46.7)	1.630 (41.4)	.157 (4.0)	1.800 (45.7)	.961 (24.4)	1.563 (39.7)	2.250 (57.2)
32	2.102 (53.4)	1.882 (47.8)	.157 (4.0)	1.800 (45.7)	.953 (24.2)	1.750 (44.5)	2.500 (63.5)
36	2.346 (59.6)	2.130 (54.1)	.157 (4.0)	1.800 (45.7)	.953 (24.2)	1.937 (49.2)	2.750 (69.9)
40	2.579 (65.5)	2.323 (59.0)	.157 (4.0)	1.800 (45.7)	.961 (24.4)	2.187 (55.5)	3.000 (76.2)

TABLE III: CAPACITOR ARRAY CODE AND CAPACITANCE RANGE

CLASS	C - SECTION (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

TABLE I: DIMENSIONS (CONTINUED)

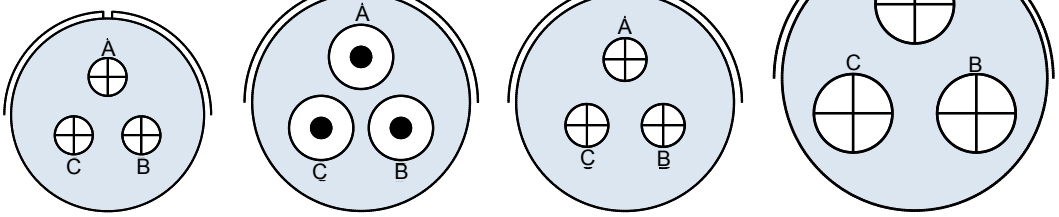
Shell Size	H Min	H Max	J Ø Thread	K Thread	L
10SL	.094 (2.4)	.205 (5.2)	.6250 - 24 UNEF	.8750 - 20 UNEF	.441 (11.2)
14S	.094 (2.4)	.295 (7.5)	.7500 - 20 UNEF	1.1250 - 18 UNEF	.575 (14.6)
16S	.094 (2.4)	.295 (7.5)	.8750 - 20 UNEF	1.2500 - 18 UNEF	.618 (15.7)
16	.094 (2.4)	.295 (7.5)	.8750 - 20 UNEF	1.2500 - 18 UNEF	.618 (15.7)
18	.094 (2.4)	.354 (9.0)	1.0000 - 20 UNEF	1.3750 - 18 UNEF	.661 (16.8)
20	.094 (2.4)	.354 (9.0)	1.1250 - 18 UNEF	1.5000 - 18 UNEF	.709 (18.0)
22	.094 (2.4)	.358 (9.1)	1.2500 - 18 UNEF	1.6250 - 18 UNEF	.795 (20.2)
24	.094 (2.4)	.358 (9.1)	1.3750 - 18 UNEF	1.7500 - 18 UNS	.795 (20.2)
28	.094 (2.4)	.335 (8.5)	1.6250 - 18 UNEF	2.0000 - 18 UNS	.886 (22.5)
32	.094 (2.4)	.256 (6.5)	1.8750 - 16 UN	2.2500 - 16 UN	.972 (24.7)
36	.094 (2.4)	.327 (8.3)	2.0625 - 16 UN	2.5000 - 16 UN	1.059 (26.9)
40	.094 (2.4)	.327 (8.3)	2.3125 - 16 UN	2.7500 - 16 UN	1.165 (29.6)

TABLE II: SHELL MATERIAL/FINISH

Symbol	Material	Finish Description
M	Aluminum	Electroless Nickel
NF		Cadmium Olive Drab Over Electroless Nickel
P	Stainless Steel	Electro-Deposited Nickel

F

Example Contact Arrangements

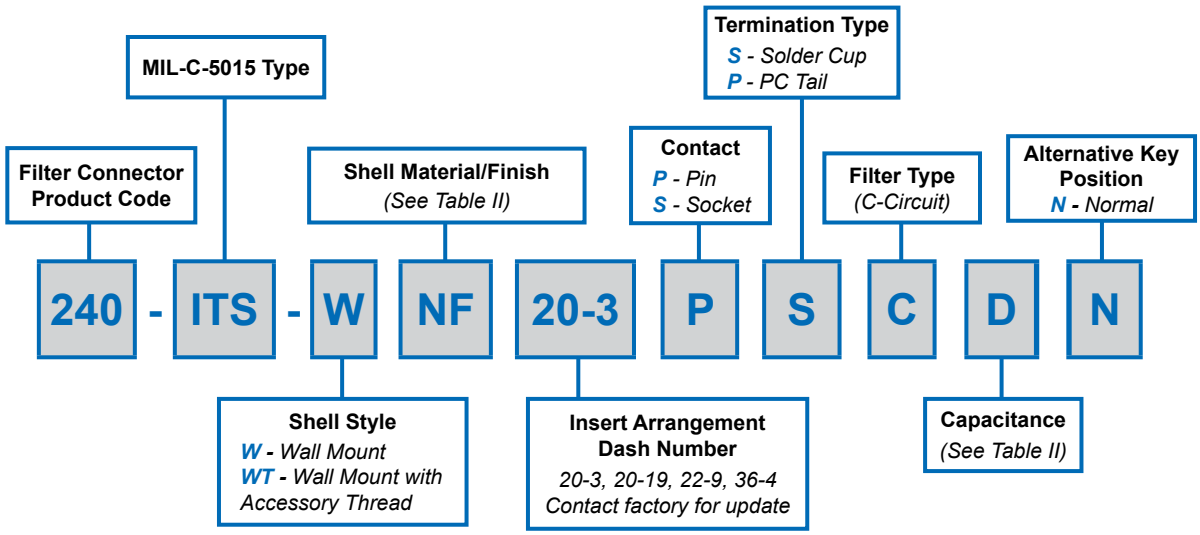


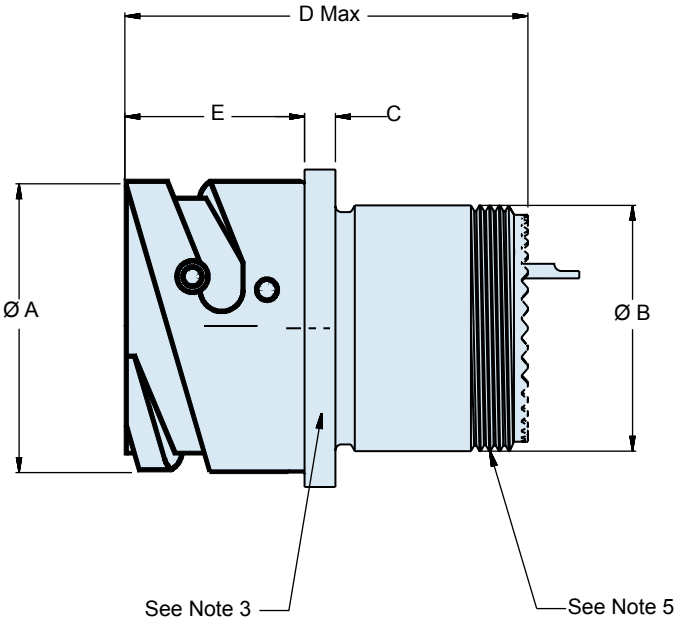
Arrangement	20-3	20-19	22-9	36-4
Contact Size	12	8	12	0
Service Rating	D	A	E	A=D; B,C=A

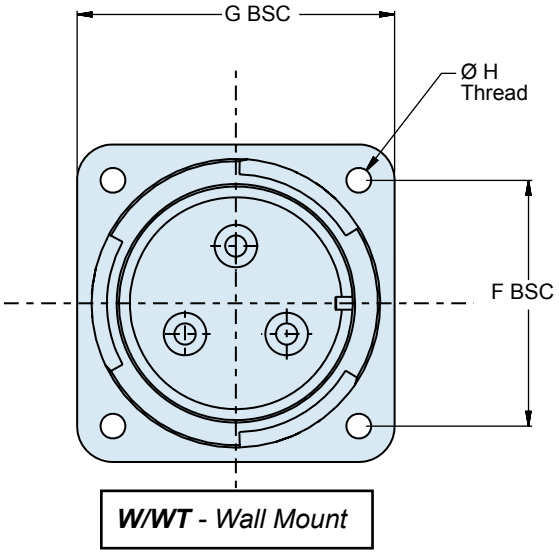
Contact Legend 12 8 0

CAGE Codes 06324
Printed in U.S.A.

240-ITS-W
Wall Mount Filtered Receptacle Connector
(5015 Type) with Reverse Bayonet Coupling







F

APPLICATION NOTES

1. Material/Finishes:
   Shells - See Table I
   Insulators - High grade thermoplastic/N.A.
   Seals - Fluorosilicone/N.A.
   Contacts - Copper Alloy/Gold Plated
2. EMI Circular Filter Connector designed to meet MIL-DTL-5015
3. Assembly to be indentified with date code, cage code, Glenair P/N, and serial number
4. Electrical Performance:
   A - Capacitance - See Table II
   B - I.R. 5000 Megohms min at 200 VDC
   C - D.W.V. 500 VDC with 100 micro amps max leakage
5. Shell style WT shown
6. Metric dimensions (mm) are indicated in parentheses

240-ITS-W
Wall Mount Filtered Receptacle Connector
(5015 Type) with Reverse Bayonet Coupling

Glenair®

TABLE I: DIMENSIONS

Shell Size	A Ø +.000 -.004 (+.000 -.102)	B Ø Max	C ±.008 (.203)	D Max	E +.008 -.000 (+.203 -.000)	F BSC ±.004 (.102)	G BSC ±.008 (.203)	H Ø Thread
10SL	.719 (18.3)	.638 (16.2)	.110 (2.8)	1.400 (35.6)	.728 (18.5)	.719 (18.3)	1.000 (25.4)	M4
14S	.965 (24.5)	.756 (19.2)	.130 (3.3)	1.400 (35.6)	.728 (18.5)	.906 (23.0)	1.197 (30.4)	M4
16S	1.071 (27.2)	.882 (22.4)	.130 (3.3)	1.400 (35.6)	.728 (18.5)	.969 (24.6)	1.280 (32.5)	M4
16	1.071 (27.2)	.882 (22.4)	.130 (3.3)	1.800 (45.7)	.913 (23.2)	.969 (24.6)	1.280 (32.5)	M4
18	1.209 (30.7)	1.008 (25.6)	.157 (4.0)	1.800 (45.7)	.913 (23.2)	1.063 (27.0)	1.378 (35.0)	M4
20	1.339 (34.0)	1.142 (29.0)	.157 (4.0)	1.800 (45.7)	.913 (23.2)	1.157 (29.4)	1.496 (38.0)	M4
22	1.469 (37.3)	1.268 (32.2)	.157 (4.0)	1.800 (45.7)	.913 (23.2)	1.250 (31.8)	1.614 (41.0)	M4
24	1.610 (40.9)	1.390 (35.3)	.157 (4.0)	1.800 (45.7)	.913 (23.2)	1.374 (34.9)	1.752 (44.5)	M4
28	1.839 (46.7)	1.630 (41.4)	.157 (4.0)	1.800 (45.7)	.961 (24.4)	1.563 (39.7)	2.004 (50.9)	M5
32	2.102 (53.4)	1.882 (47.8)	.157 (4.0)	1.800 (45.7)	.953 (24.2)	1.750 (44.5)	2.244 (57.0)	M5
36	2.346 (59.6)	2.130 (54.1)	.157 (4.0)	1.800 (45.7)	.953 (24.2)	1.937 (49.2)	2.500 (63.5)	M5
40	2.579 (65.5)	2.323 (59.0)	.157 (4.0)	1.800 (45.7)	.961 (24.4)	2.187 (55.5)	2.752 (70.0)	M5

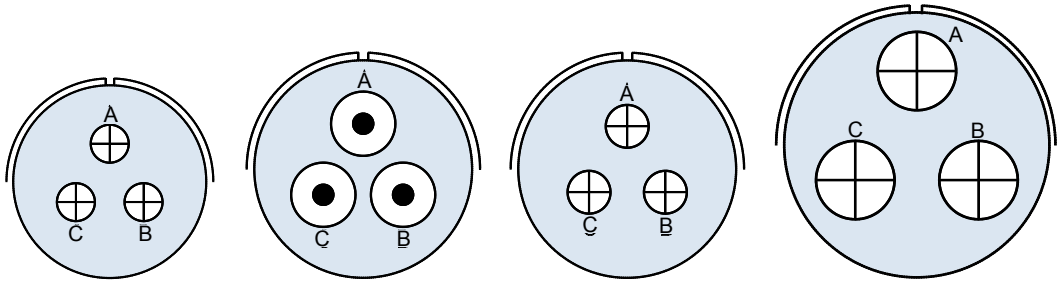
TABLE III: CAPACITOR ARRAY CODE AND CAPACITANCE RANGE

CLASS	C - SECTION (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

TABLE II: SHELL MATERIAL/FINISH

Symbol	Material	Finish Description
M	Aluminum	Electroless Nickel
NF		Cadmium Olive Drab Over Electroless Nickel
P	Stainless Steel	Electro-Deposited Nickel

Example Contact Arrangements



Arrangement	20-3	20-19	22-9	36-4
Contact Size	12	8	12	0
Service Rating	D	A	E	A=D; B,C=A

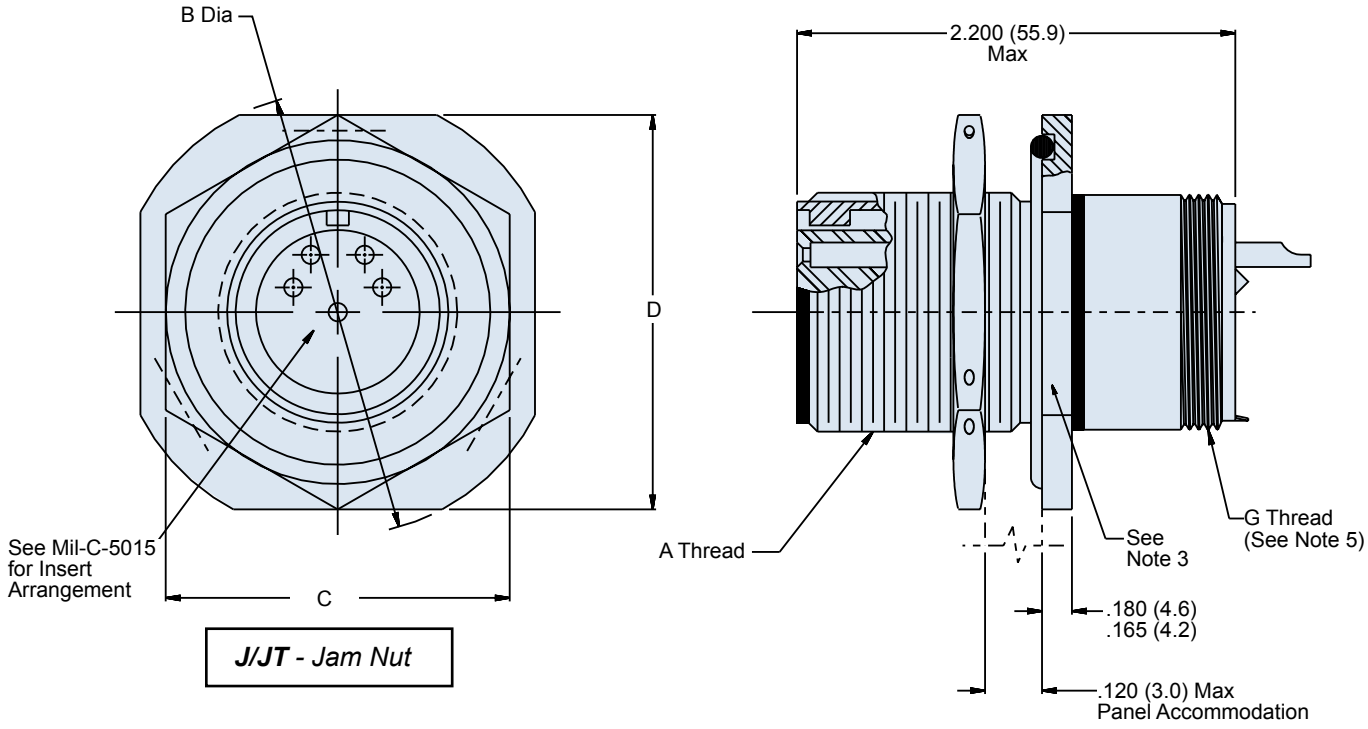
Contact Legend 12 8 0

F

240-515-J
Jam Nut Mount Filtered Receptacle Connector
(5015 Type)

240 - 515 - J P 36-4 S C D X

- **240** — Filter Connector Product Code
- **515** — MIL-C-5015 Type
- **J** — Shell Style: *J - Jam Nut*; *JT - Jam Nut with Accessory Thread*
- **P** — Shell Material/Finish *(See Table II)*
- **36-4** — Insert Arrangement Dash Number: *20-3, 20-19, 22-9, 36-4 Contact factory for update*
- **S** — Termination Type: *PS - Pin, Solder Cup*; *SS - Socket, Solder Cup*
- **C** — Filter Type *(C-Circuit)*
- **D** — Capacitance *(See Table III)*
- **X** — Alternative Key Position *Per MIL-C-5015*; *Omit - Normal*



J/JT - Jam Nut

APPLICATION NOTES

1. Materials/Finishes:
   Shells - See Table II
   Insulators - High grade thermoplastic/N.A.
   Seals - Fluorosilicone/N.A.
   Contacts - Copper Alloy/Gold Plated
2. EMI Circular Filter Connector designed to meet MIL-DTL-5015
3. Assembly to be indentified with date code, cage code, Glenair P/N, and serial number
4. Electrical Performance:
   A - Capacitance - See Table III
   B - I.R. 5000 Megohms min at 200 VDC
   C - D.W.V. 500 VDC with 100 micro amps max leakage
5. Shell style JT shown
6. Metric dimensions (mm) are indicated in parentheses

CAGE Codes 06324
Printed in U.S.A.

240-515-J
Jam Nut Mount Filtered Receptacle Connector
(5015 Type)

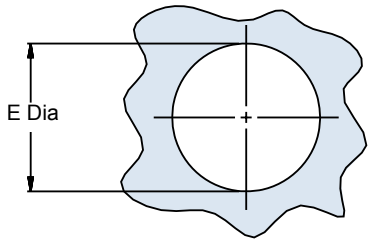
Glenair®

TABLE I: DIMENSIONS

Shell Size	A Thread Class 2A	B Dia ±.005 (0.13)	C ±.010 (0.25)	D ±.005 (0.13)	E Dia +.015 (0.38) -.000 (0)	F ±.005 (0.13)	G Thread Class 2A
14S	.875 - 20 UNEF	1.647 (41.8)	1.125 (28.6)	1.562 (39.7)	.880 (22.4)	.720 (18.3)	7/8-20 UNEF
16S	1.000 - 20 UNEF	1.772 (45.0)	1.250 (31.8)	1.687 (42.8)	1.005 (25.5)	.720 (18.3)	1-20 UNEF
18	1.125 - 18 UNEF	1.817 (46.2)	1.375 (34.9)	1.812 (46.0)	1.130 (28.7)	.970 (24.6)	1 1/16-18 UNEF
20	1.250 - 18 UNEF	2.022 (51.4)	1.500 (38.1)	1.937 (49.2)	1.255 (31.9)	.970 (24.6)	1 3/16-18 UNEF
22	1.375 - 18 UNEF	2.241 (56.9)	1.625 (41.3)	2.156 (54.8)	1.380 (35.1)	.970 (24.6)	1 5/16-18 UNEF
24	1.500 - 18 UNEF	2.356 (59.8)	1.750 (44.5)	2.281 (57.9)	1.505 (38.2)	.970 (24.6)	1 7/16-18 UNEF
32	2.000 - 18 UNS	2.856 (72.5)	2.375 (60.3)	2.781 (70.6)	2.005 (50.9)	.970 (24.6)	2-18 UNS
36	2.250 - 16 UN	2.118 (53.8)	2.875 (73.0)	3.031 (77.0)	2.255 (57.3)	.970 (24.6)	2 1/4-16 UN
40	2.500 - 16 UN	3.368 (85.5)	2.875 (73.0)	3.281 (83.3)	2.503 (63.6)	.970 (24.6)	1 1/2-16 UN

TABLE III: CAPACITOR ARRAY CODE AND CAPACITANCE RANGE

CLASS	C - SECTION (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

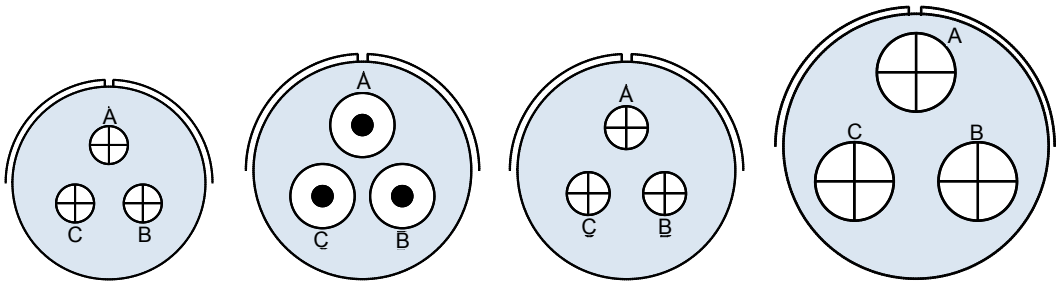


RECOMMENDED PANEL CUT-OUT

TABLE II: SHELL MATERIAL/FINISH

Symbol	Material	Finish Description
M	Aluminum	Electroless Nickel
NF		Cadmium Olive Drab Over Electroless Nickel
P	Stainless Steel	Electro-Deposited Nickel

Example Contact Arrangements



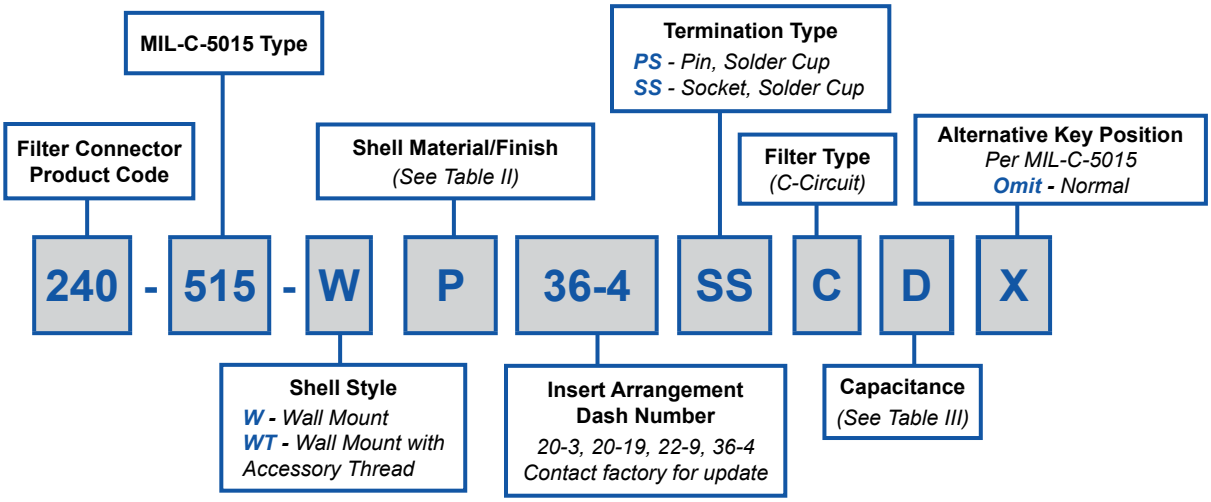
	20-3	20-19	22-9	36-4
Arrangement	20-3	20-19	22-9	36-4
Contact Size	12	8	12	0
Service Rating	D	A	E	A=D; B,C=A

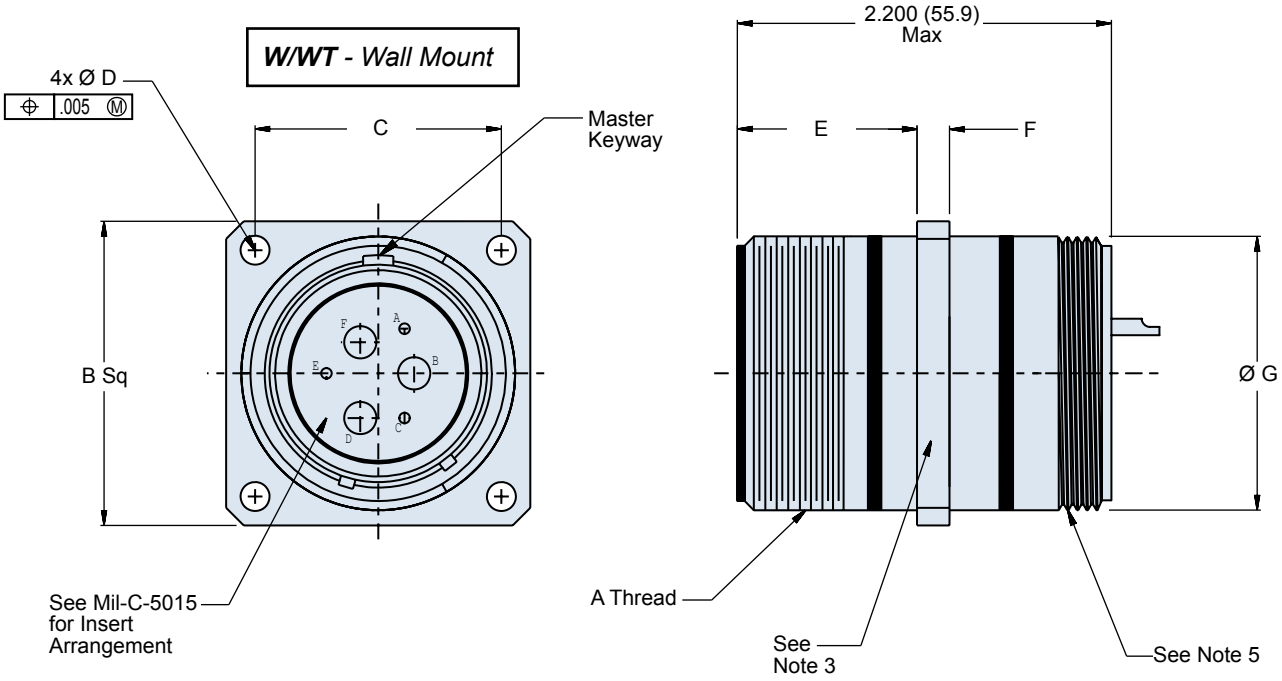
Contact Legend

CAGE Codes 06324

Printed in U.S.A.

240-515-W
Wall Mount Filtered Receptacle Connector
(5015, MS3452 Type)





F

APPLICATION NOTES

1. Materials/Finishes:
   Shells - See Table II
   Insulators - High grade thermoplastic/N.A.
   Seals - Fluorosilicone/N.A.
   Contacts - Copper Alloy/Gold Plated
2. EMI Circular Filter Connector designed to meet MIL-DTL-5015
3. Assembly to be indentified with date code, cage code, Glenair P/N, and serial number
4. Electrical Performance:
   A - Capacitance - See Table III
   B - I.R. 5000 Megohms min at 200 VDC
   C - D.W.V. 500 VDC with 100 micro amps max leakage
5. Shell style WT shown
6. Metric dimensions (mm) are indicated in parentheses

240-515-W
Wall Mount Filtered Receptacle Connector
(5015, MS3452 Type)

TABLE I: DIMENSIONS

Shell Size	A Thread Class 2A	B ±.031 (0.78)	C SBC	D +.010 (0.25) -.005 (0.13)	E Dia +.015 (0.38) -.000 (0)	F ±.015 (0.38)	Ø G ±.160 (4.06)
14S	.875 - 20 UNEF	1.188 (30.2)	.906 (23.0)	.120 (3.0)	.562 (14.3)	.083 (2.1)	.875 (22.2)
16S	1.000 - 20 UNEF	1.281 (32.5)	.969 (24.6)	.120 (3.0)	.562 (14.3)	.083 (2.1)	1.000 (25.4)
18	1.125 - 18 UNEF	1.375 (34.9)	1.062 (27.0)	.120 (3.0)	.750 (19.1)	.125 (3.2)	1.062 (27.0)
20	1.250 - 18 UNEF	1.500 (38.1)	1.156 (29.4)	.120 (3.0)	.750 (19.1)	.125 (3.2)	1.187 (30.1)
22	1.375 - 18 UNEF	1.625 (41.3)	1.250 (31.8)	.120 (3.0)	.750 (19.1)	.125 (3.2)	1.312 (33.3)
24	1.500 - 18 UNEF	1.750 (44.5)	1.375 (34.9)	.147 (3.7)	.812 (20.6)	.125 (3.2)	1.437 (36.5)
32	2.000 - 18 UNS	2.250 (57.2)	1.750 (44.5)	.173 (4.4)	.875 (22.2)	.125 (3.2)	2.000 (50.8)
36	2.250 - 16 UN	2.500 (63.5)	1.938 (49.2)	.173 (4.4)	.875 (22.2)	.125 (3.2)	2.250 (57.2)
40	2.500 - 16 UN	2.750 (69.9)	2.188 (55.6)	.173 (4.4)	.875 (22.2)	.125 (3.2)	2.500 (63.5)

TABLE III: CAPACITOR ARRAY CODE AND CAPACITANCE RANGE

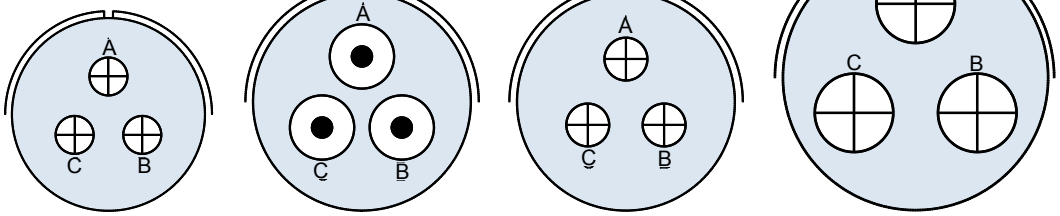
CLASS	C - SECTION (pF)
X	80,000 - 120,000
Y	40,000 - 60,000
Z	30,000 - 45,000
A	19,000 - 28,000
B	16,000 - 22,500
C	9,000 - 16,500

TABLE II: SHELL MATERIAL/FINISH

Symbol	Material	Finish Description
M	Aluminum	Electroless Nickel
NF		Cadmium Olive Drab Over Electroless Nickel
P	Stainless Steel	Electro-Deposited Nickel

F

Example Contact Arrangements



	20-3	20-19	22-9	36-4
Arrangement	20-3	20-19	22-9	36-4
Contact Size	12	8	12	0
Service Rating	D	A	E	A=D; B,C=A

Contact Legend 12 8 0

CAGE Codes 06324
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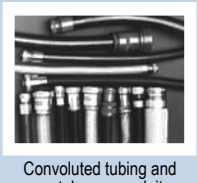
Need something unusual in a multi-contact connector?

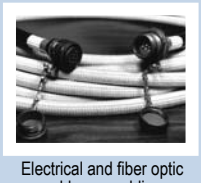
Then consider Glenair's expertise in high reliability connector design and development.

Glenair's line of innovative, specialty connectors has grown, year after year, to become one of the most diverse in the industry. Our application engineers have worked directly with commercial, industrial and military customers worldwide to design and build such products as quick disconnects for missile launchers, high temperature connectors for jet engines, shorting plugs to prevent accidental weapon firing, explosion-proof bulkhead feed-throughs for marine and off-shore platform use, and hermetically-sealed MIL-DTL-38999 connectors for satellite applications. Miniaturization is our specialty. So, for extraordinary applications, consider an extraordinary partner: Glenair.

Commercial and Mil Spec connector accessories



Convoluted tubing and metal-core conduit



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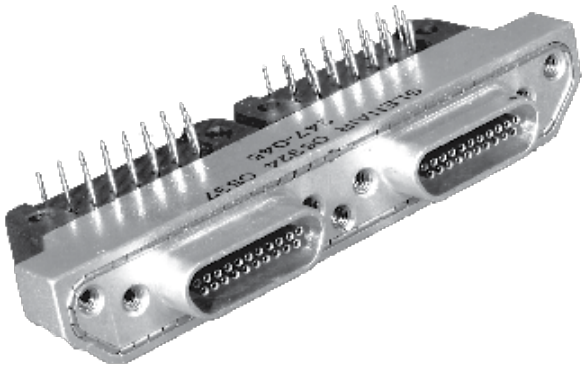

PRODUCT FEATURES

- Special Shell and Flange Configurations
- Hybrid Fiber Optic/Electrical Designs
- Crimp Removable Contacts
- Immersion-Proof Environmental Sealing
- Unique Glass Hermetic Versions
- PC Tail and PCB Terminations
- Rectangular and Circular Designs

From Custom Shells to Hybrid Fiber Optic and Electrical Insert Arrangements, Glenair Has the Capability to Produce Unique EMI/RFI Suppression Connectors to the Exact Design Requirements of Your Application.

Innovation Born From Over 50 Years of Experience in the Interconnect Industry

This catalog presents a broad range of standardized interconnect solutions for EMI and EMP filter applications.The ability to offer standard catalog products designed to resolve the most commonly encountered EMI/RFI suppression requirements is a major Glenair strength. Many standard filter connector component elements are stock items, enabling Glenair to offer lightning fast turnaround on our catalog filter products.

But many situations call for special purpose or custom filter connector configurations—everything from unique capacitance values, to integrated TVS diodes or chip technologies. Glenair is equally adept at delivering truly custom filter connector solutions across our entire range of connector types and styles. This catalog section presents just a small sampling of some of the more interesting designs. Our capabilities in the manufacture of mission-critical filter connectors is virtually limitless. Please contact the factory for free application engineering assistance.

CAGE Codes 06324
Printed in U.S.A.

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240-084
Ruggedized Power Line Filter IAW MIL-DTL-26482 for High-Reliability Applications

Basic Part Number	Shell Style	Connector Class	Shell Size	Insert Arrangement		Filter Orientation	Polarization	
240-084	A	ME	14	- 02	PS	R	10	B

Shell Style
A = Adapter

Connector Class
See Table II

Shell Size

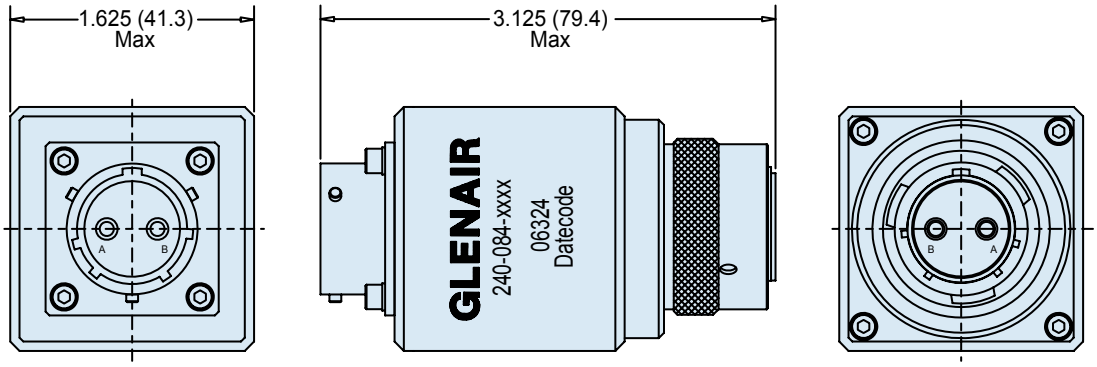
Insert Arrangement

Filter Orientation
P = Input on Plug Side
R = Input on Receptacle Side

Polarization
See Facing Page

Contact Gender
PS = Pins, Plug Side
SP = Sockets, Plug Side

Current Rating
See Table I



APPLICATION NOTES

1. Connector to be identified with standard marking including manufacturer, part number, cage code and date code.
2. Metric dimensions (mm) indicated in parentheses.
3. Connector interface IAW MIL-DTL-26482, ARR 14-02.
4. Material/Finish:
   Shells/Body - Aircraft grade aluminum/See Table II
   Contacts – Copper alloy/Gold plated.
   Insulator – High grade rigid dielectric.
   Potting – Epoxy compound.
   Seals – Fluorosilicone.
5. Reliability Specifications:
   Operating temperature range – -10°C to 110°C.
   Storage temperature range – -25°C to 125°C.
   Current overload test – 6X rated current for 8 seconds.
6. Electrical Specifications:
   Insulation resistance – 6000 MOHM at 100 VDC.
   Dielectric withstandsing (line to ground) – 2250 VDC for 1 minute.
   Dielectric withstanding (line to line) – 1450 VDC for 1 minute.

CAGE Codes 06324
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Polarization Keys and Keyways (Receptacle View Shown)

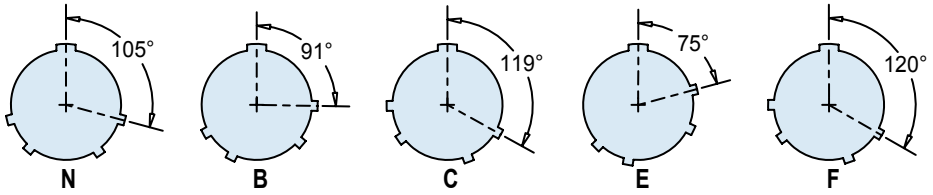


Table I: Filter Specifications and Schematic

Symbol	Rated Current (A) @25°C	Rated Current (A) @40°C	Leakage Current I (mA)	Inductance L (mH)	Capacitance CX (uF)	Capacitance CY (nF)	Resistance R (kΩ)
1	1.15	1	0.74	12	0.15	4.7	1000
3	3.45	3	0.74	2.5	0.15	4.7	1000
6	6.9	6	0.74	1	0.15	4.7	1000
10	11.5	10	0.74	0.8	0.15	4.7	1000
12	13.8	12	0.74	0.7	0.15	4.7	1000
16	18.4	16	0.74	0.65	0.15	4.7	1000

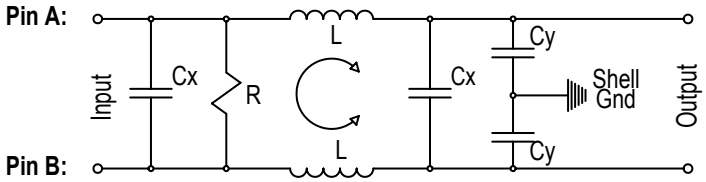
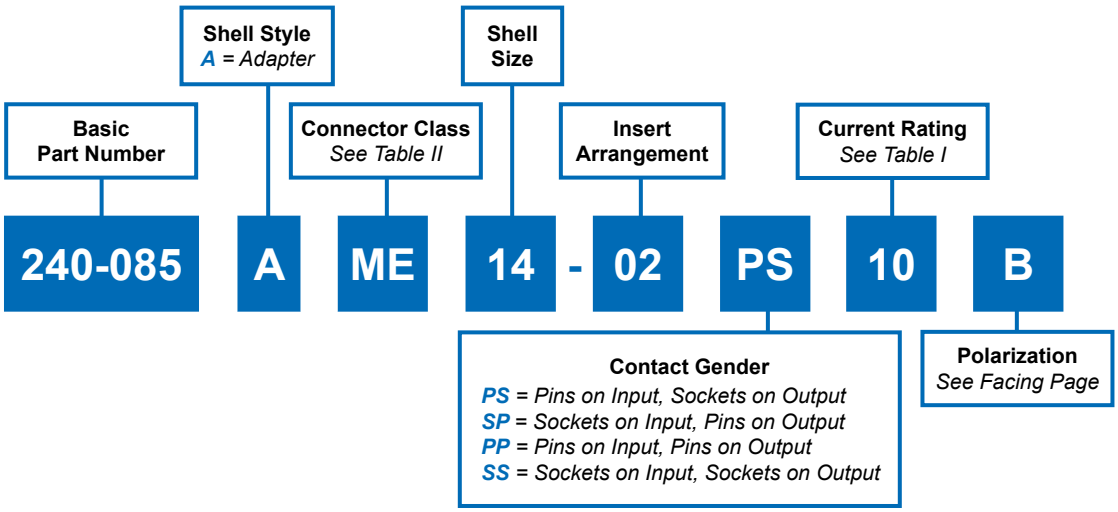


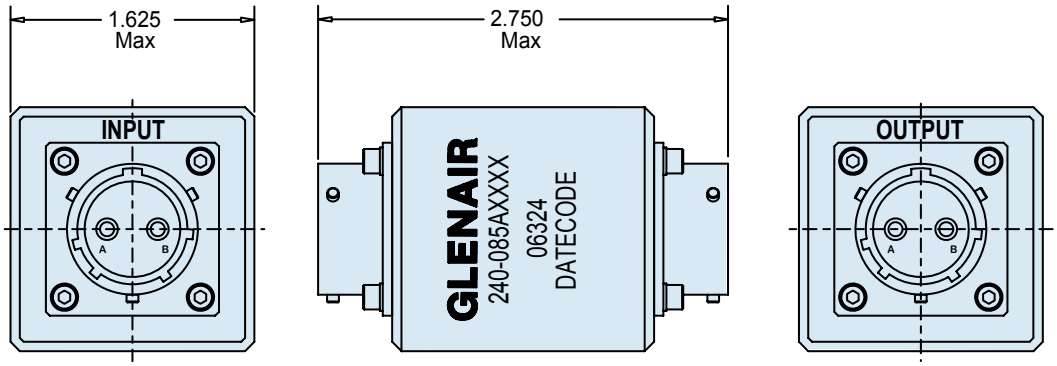
Table II: Material and Finish

Symbol	Material	Finish
ME	Aluminum	Electroless Nickel
NF		Cadmium O.D. over Electroless Nickel

G

240-085
Ruggedized Power Line Filter IAW MIL-DTL-26482 for High-Reliability Applications





APPLICATION NOTES

1. Connector to be identified with standard marking including manufacturer, part number, cage code and date code.
2. Metric dimensions (mm) indicated in parentheses.
3. Connector interface IAW MIL-DTL-26482, ARR 14-02.
4. Material/Finish:
   Shells/Body - Aircraft grade aluminum/See Table II
   Contacts – Copper alloy/Gold plated.
   Insulator – High grade rigid dielectric.
   Potting – Epoxy compound.
   Seals – Fluorosilicone.
5. Reliability Specifications:
   Operating temperature range – -10°C to 110°C.
   Storage temperature range – -25°C to 125°C.
   Current overload test – 6X rated current for 8 seconds.
6. Electrical Specifications:
   Insulation resistance – 6000 MOHM at 100 VDC.
   Dielectric withstandsing (line to ground) – 2250 VDC for 1 minute.
   Dielectric withstanding (line to line) – 1450 VDC for 1 minute.

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Polarization Keys and Keyways (Receptacle View Shown)

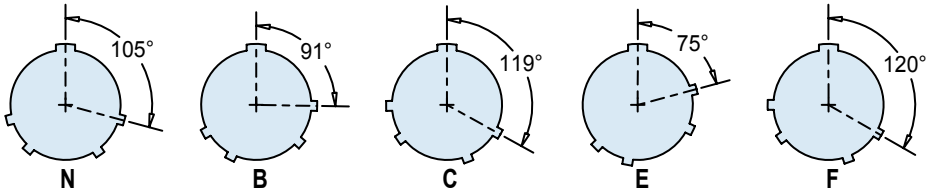

Table I: Filter Specifications and Schematic

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3	3.45	3	0.74	2.5	0.15	4.7	1000
6	6.9	6	0.74	1	0.15	4.7	1000
10	11.5	10	0.74	0.8	0.15	4.7	1000
12	13.8	12	0.74	0.7	0.15	4.7	1000
16	18.4	16	0.74	0.65	0.15	4.7	1000

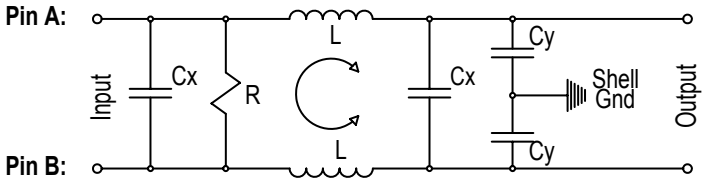


Table II: Material and Finish

Symbol	Material	Finish
ME	Aluminum	Electroless Nickel
NF		Cadmium O.D. over Electroless Nickel

G

Glenair®

247-039
MIL-DTL-38999 Series 1.5
(Eurofighter JN Spec)
Filtered Wall Mount Receptacle Connector

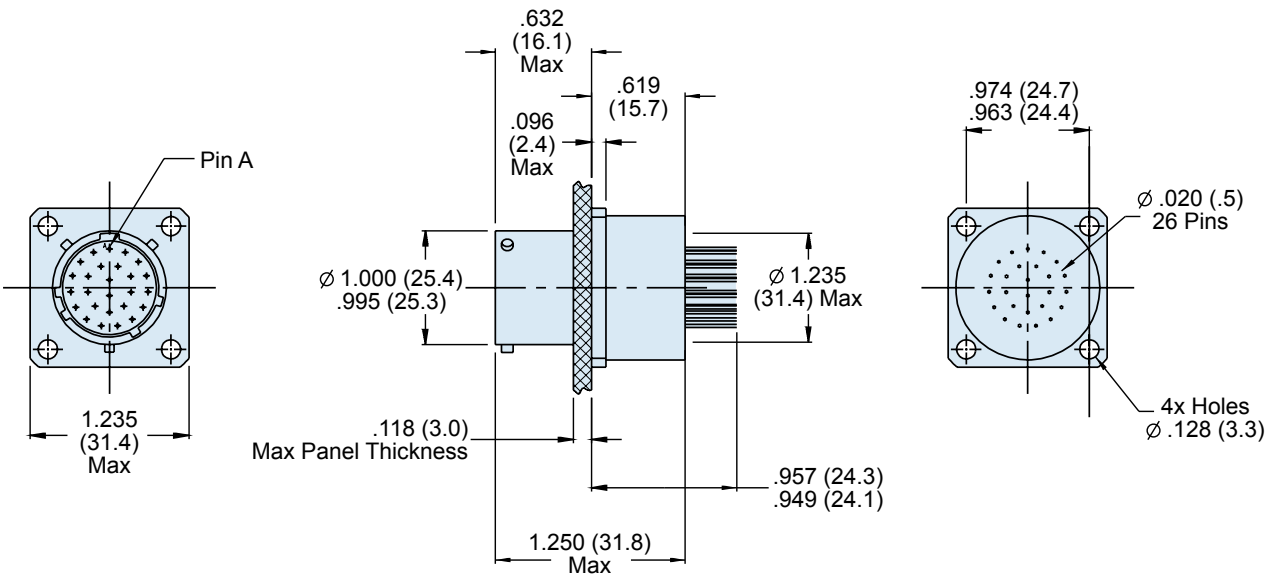
MIL-DTL-38999 Series 1.5 Type

Filter Connector Product Code

Alternative Key Position
Per MIL-DTL-38999
A, B, C, D, or E ***N*** *- Normal*

247 - 039 - P N

Contact
P *- Pin*
S *- Socket*



W *- Wall Mount*

G

247-039
MIL-DTL-38999 Series 1.5
(Eurofighter JN Spec)
Filtered Wall Mount Receptacle Connector

Glenair®

TABLE I: FILTER PERFORMANCE							
CONT. NO.	CAP nF	FILTER TYPE	ATT. dB				
			0.5M	1M	10M	100M	1G
All	112	PI	13	17	48	55	50

APPLICATION NOTES

1. This drawing describes the requirements for a filtered 26 way Size 20 pin contact, PCB Tail receptacle, complying with Eurofighter J62 .017 (JN1003) shell size 16 connector, polarization position 'N' insert arrangement 26.
2. Electrical Characteristics:
   - I. Current rating - each contact at 25° C: 3A DC
   - II. Working voltage - 100 VDC at sea level
   - III. Dielectric withstand voltage (DWV) - 250 VDV @ 5 sec.
   - IV. Typical capacitance - per table I +/- 20%
   - V. Attenuation - per MIL-STD-220A (in 50 Ohm system no load) per table I
3. Transient Protection:

Lines	W.V.	B.V.	C.V.	ENERGY
1-2	26V @ 50uA DC	31-38V @ 1mA DC	58V @ 30A @ 8/20 us	0.1 J
3-13	30V @ 50uA DC	37-46V @ 1mA DC	65V @ 30A @ 8/20 us	0.1 J

4. Environmental Requirements:
   - I. Temperature range: -55°C to +125°C
   - II. Shock: 40g x 6mS
   - III. Vibration: 10g RMS @ 50 to 2000 Hz
   - IV. Humidity: up to 95% R.H.
5. Materials and finishes in accordance with J62.017, Summarized as follows:
   - I. Shell: aluminum alloy
   - II. Finish: olive drab cad plate over nickel
   - III. Contacts: copper alloy gold plate over nickel
   - IV. Insulator: high grade plastic
   - V. Potting: epoxy

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247-026
MIL-DTL-38999 Series III
Hybrid Fiber Optic/Electrical
Filtered Jam Nut Mount Receptacle Connector

MIL-DTL-38999 Series III Type

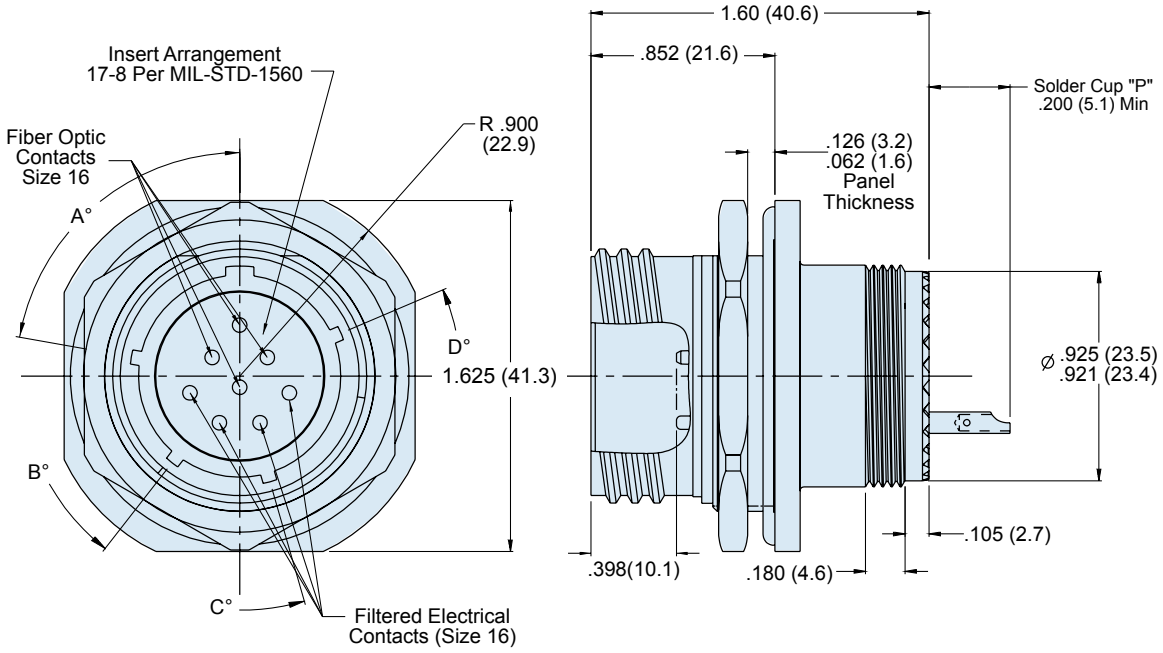
Filter Connector Product Code

Alternative Key Position
Per MIL-DTL-38999
A, B, C, D, or E *N - Normal*

247	-	026	M	P	N

Contact
P - Pin
S - Socket

Termination Type
P - Solder Cup
C - PCB Feed Through



***J** - Jam Nut*

CAGE Codes 06324

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TABLE I: FINISH AND MATERIALS		
SYM	**MATERIAL**	**FINISH DESCRIPTION**
M	Aluminum	Electroless Nickel
NF		Cadmium O.D. Over Electroless Nickel Finish
MT		Ni-PTFE *1000 Hour Grey™*

KEY AND KEYWAY LOCATION				
Position	**A**	**B**	**C**	**D**
N	80°	142°	196°	293°
A	135°	170°	200°	310°
B	49°	169°	200°	244°
C	66°	140°	200°	257°
D	62°	145°	180°	280°
E	79°	153°	197°	272°

APPLICATION NOTES

1. Materials / Finishes:
   Shell - See Table I
   Contacts - Copper Alloy / Gold Plate
   Insulators - High Grade Thermoplastic / N.A.
   Capacitor Array - Ceramic Metalisation
   Potting - RTV and Epoxy
   Seals - Flourosilicone
2. Assembly to be identified with Glenair's name, part number and date code - space permitting.
3. Electrical Performance: PI Filter

A. Capacitance - 20 nF

B. I.R. 5000 MegOhms at 100 VDC

C. DWV - 200 VDC

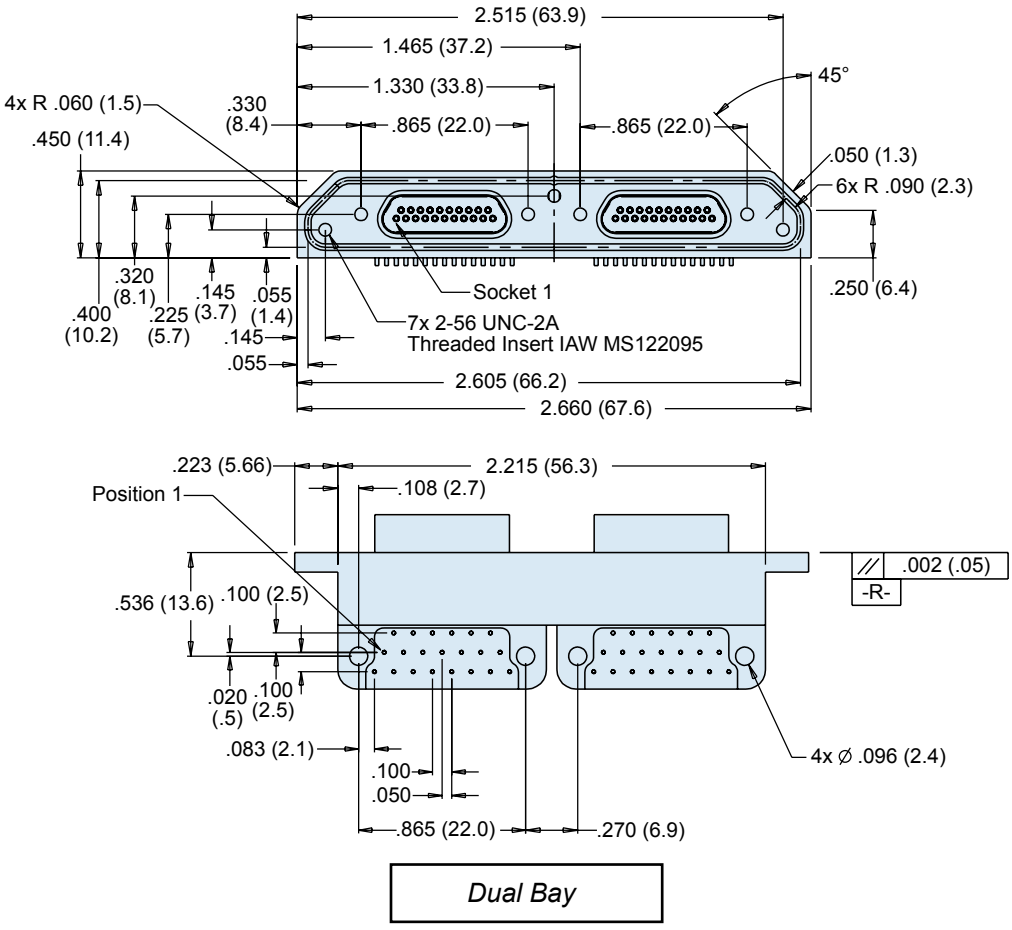
D. Attenuation per MIL-STD-220 at 25° C

Frequency	Value
10 Mhz	20 dB
100 Mhz	65 dB
1 Ghz	>70 dB

4. Optical Performance:
   <1 dB loss at 850 nm 50/125 Multimode Fiber
5. All contacts are Non-Removable
6. Metric Dimensions (mm) are indicated in parentheses.

G

247-045
Dual Bay Micro-D Filter Connector
Right Angle (90°) Printed Circuit Board Mount

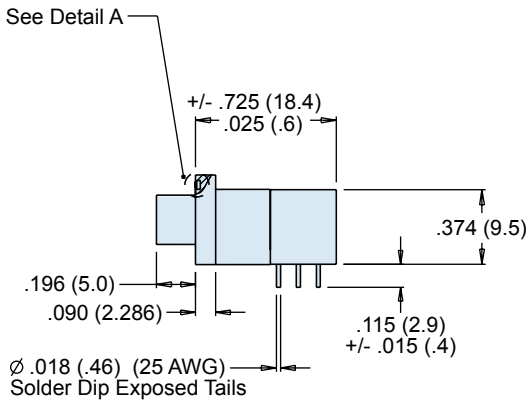


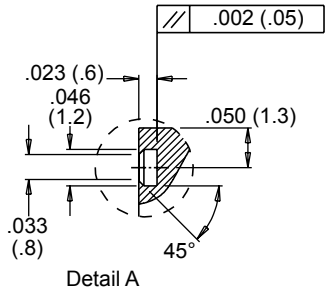
Dual Bay

Please Consult Factory for Additional Insert Arrangements and Other Options to This Custom Connector Design

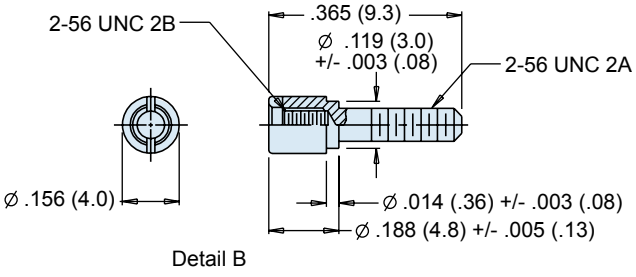
APPLICATION NOTES

1. Interpret Drawing IAW ASME-Y-14.5
2. Interface Dimensions IAW MIL-DTL-83513/04-C
3. Materials and Finishes:
   Shell - Aluminum Alloy / Tin over Nickel IAW ASTM-B-545
   Insulators and Potting Trays - Liquid Crystal Polymer
   Contacts - Copper Alloy / Gold over Nickel
   Leads - 25 AWG Copper / Gold Plated
   Interfacial Seals - Flourosilicone
   Hardware - Stainless Steel / Passivated
   Potting - HYSOL EE4215, or 2850FT
4. Electrical Parameters:
   Capacitace - Pins 9, 24, 27, 29, 34, 37 and 39 are internally grounded to shell.
   All remaining pins are to be 16-22.5 nF
   Insulation Resistance - 5000 MegOhms min. at 100 VDC
   Dielectric Withstand Voltage - 200 VDC
   Insertion Loss -
   10 dB @ 10 MHz
   25 dB @ 100 MHz
   40 dB @ 1 GHz
   50 dB @ 10 GHz
5. Each assembly to be shipped with 4 rear panel mount jackposts for mounting to a .020 thick panel. (See Detail B)
6. Part supplied with EMI Spring installed.
7. Metric Dimensions (mm) are indicated in parentheses.

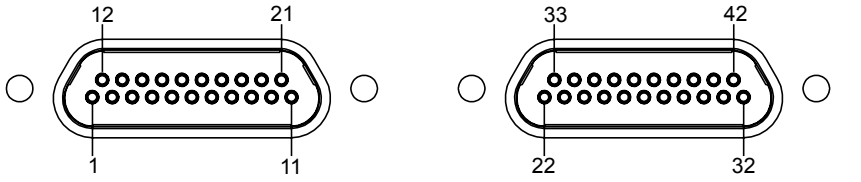




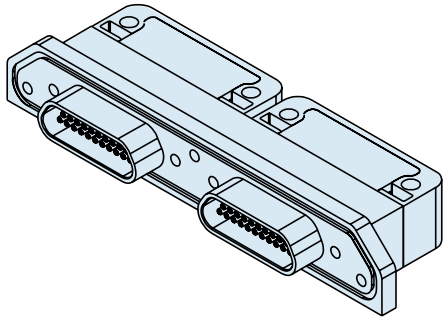
Detail A

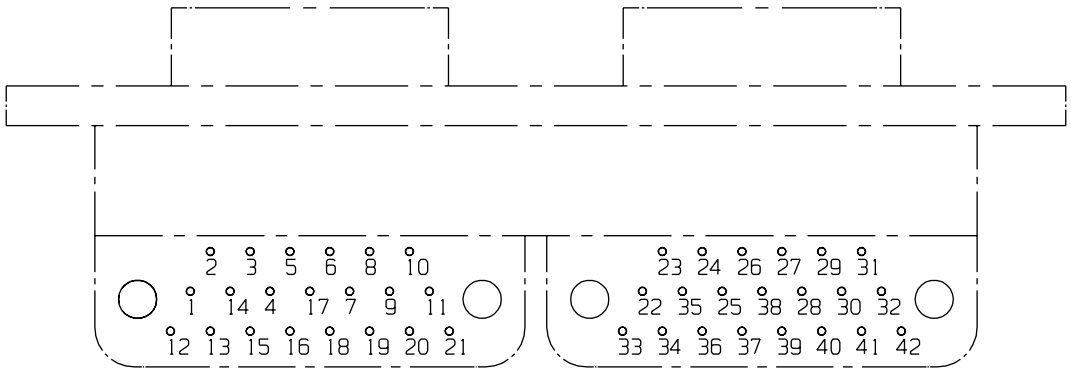


Detail B



Mating Face Contact Identification





Termination Contact Identification

G

Glenair®

247-070
Immersion Proof Micro-D Filter Connector
Right Angle (90°) Printed Circuit Board Mount

Basic Number

Filter Connector Product Code

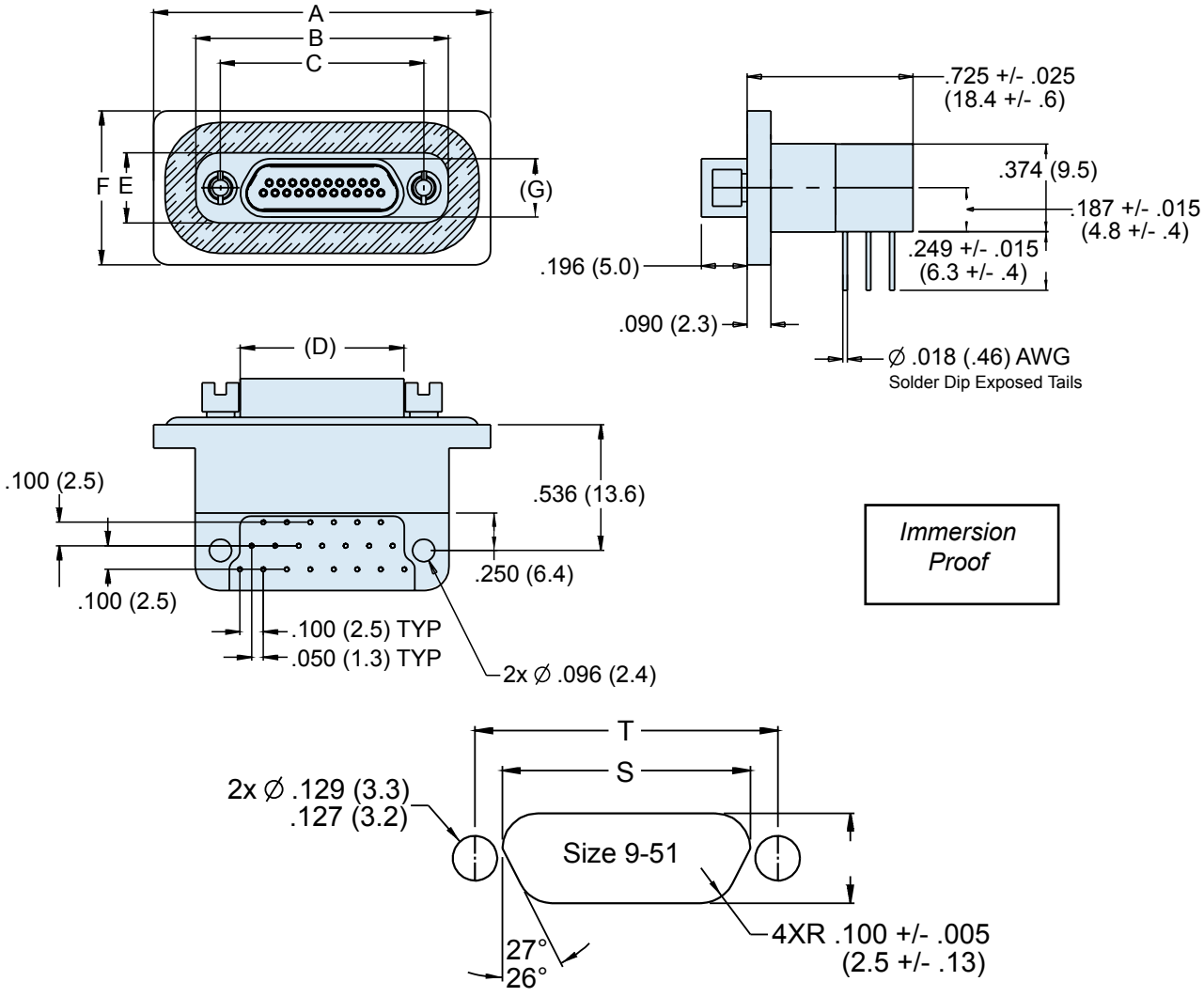
Shell Size
- *009* - 9 Position
- *015* - 15 Position
- *021* - 21 Position
- *025* - 25 Position
- *031* - 31 Position
- *037* - 37 Position

Shell Plating
- *01* - Cadmium
- *02* - Nickel
- *04* - Gold

247 - 070 - 021 - P - G - 02

Contacts
- *P* - Plug (Pin)
- *S* - Receptacle (Socket)

Filter Class
(See Table I)



CAGE Codes 06324

Printed in U.S.A.

247-070
Immersion Proof Micro-D Filter Connector
Right Angle (90°) Printed Circuit Board Mount

RECOMMENDED PANEL CUTOUTS			
LAYOUT	S +.004 (.1) -.000 (0)	T +.003 (.08) -.003 (.08)	W +.004 (.1) -.000 (0)
9	.408 (10.4)	.565 (14.4)	.256 (6.5)
15	.558 (14.2)	.715 (18.2)	.256 (6.5)
21	.708 (18.0)	.865 (22.0)	.256 (6.5)
25	.808 (20.5)	.965 (24.5)	.256 (6.5)
31	.958 (24.3)	1.115 (28.3)	.256 (6.5)
37	1.108 (28.1)	1.265 (32.1)	.256 (6.5)

TABLE I: CAPACITOR ARRAY CODE CAPACITANCE RANGE	
CLASS	C - CIRCUIT (pF)
A	19,000 - 28,000
B	16,000 - 22,500
C	9,000 - 16,500
D	4,000 - 6,000
E	1,650 - 2,500
F	400 - 650
G	200 - 300

DIMENSIONAL TABLE							
SHELL SIZE	A +/- .005 (.13)	B +/- .005 (.13)	C +/- .003 (.08)	(D)	E +/- .005 (.13)	F +/- .005 (.13)	(G)
9P	1.135 (28.8)	.775 (19.7)	.565 (14.4)	.304 (7.7)	.298 (7.6)	.655 (16.6)	.185 (4.7)
9S	1.135 (28.8)	.775 (19.7)	.565 (14.4)	.358 (9.1)	.298 (7.6)	.655 (16.6)	.235 (6.0)
15P	1.285 (32.6)	.925 (23.5)	.715 (18.2)	.484 (12.3)	.298 (7.6)	.655 (16.6)	.185 (4.7)
15S	1.285 (32.6)	.925 (23.5)	.715 (18.2)	.534 (13.6)	.298 (7.6)	.655 (16.6)	.235 (6.0)
21P	1.435 (36.4)	1.075 (27.3)	.865 (22.0)	.634 (16.1)	.298 (7.6)	.655 (16.6)	.185 (4.7)
21S	1.435 (36.4)	1.075 (27.3)	.865 (22.0)	.684 (17.4)	.298 (7.6)	.655 (16.6)	.235 (6.0)
25P	1.535 (39.0)	1.175 (29.8)	.965 (24.5)	.734 (18.6)	.298 (7.6)	.655 (16.6)	.185 (4.7)
25S	1.535 (39.0)	1.175 (29.8)	.965 (24.5)	.784 (19.9)	.298 (7.6)	.655 (16.6)	.235 (6.0)
31P	1.685 (42.8)	1.325 (33.7)	1.115 (28.3)	.884 (22.5)	.298 (7.6)	.655 (16.6)	.185 (4.7)
31S	1.685 (42.8)	1.325 (33.7)	1.115 (28.3)	.934 (23.7)	.298 (7.6)	.655 (16.6)	.235 (6.0)
37P	1.835 (46.6)	1.475 (37.5)	1.265 (32.1)	1.034 (26.3)	.298 (7.6)	.655 (16.6)	.185 (4.7)
37S	1.835 (46.6)	1.475 (37.5)	1.265 (32.1)	1.084 (27.5)	.298 (7.6)	.655 (16.6)	.235 (6.0)

APPLICATION NOTES

1. Material/ Finish:
   Shells - Aluminum Alloy / See P/N Development for Plating
   Insulators - LCP / N.A.
   Contacts - Copper Alloy / Gold Plated
   O-Rings - Flourosilicone
2. Assembly to be identified with Glenair's name, part number, date code, and pin 1 identification.
3. Performance Data per MIL-DTL-835613
4. Interface Dimensions per MIL-DTL-83513
5. Assembly Supplied with 2 Rear Panel Mount JackPosts for 1/16 Thick Panel
6. Termination Footprint per Glenair CBR (see Glenair Micro-D catalog or www.glenair.com)
7. Plug Assemblies Supplied with EMI Ground Spring.
8. Each Assembly to be Supplied with O-Ring Installed.
9. All Contacts to have Identical Filter Value. Other Filter Arrangements Available - Contact Factory.
10. DWV - 100 VDC Min.
11. Insulation Resistance: 5000 MegOhms Min. at 200 VDC
12. Metric dimensions (mm) are indicated in parentheses.

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www.glenair.com
E-Mail: sales@glenair.com

240-601
ARINC 600 Size 1
Environmentally Compatible Filter Receptacle

Basic Number		Finish		Termination		Cavity Insert A		Cavity Insert B	Cavity Insert C
240	- 601	M	045	P	- 01PA	01PA		19PA	

Basic Number

Finish
M - Electroless Nickel
C - Yellow Cadmium over Nickel

Termination
P - PC Tail
S - Solder Cup

Cavity Insert A

Cavity Insert B

Cavity Insert C

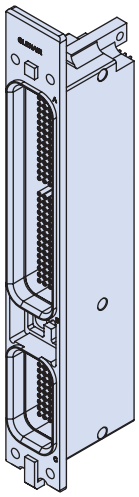
ARINC 600:
601 - Shell Size 1

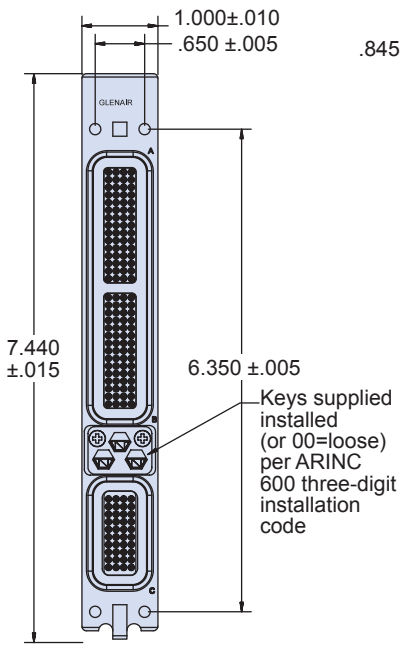
Key Position
3 Digit Code Ref ARINC 600 ATT 18

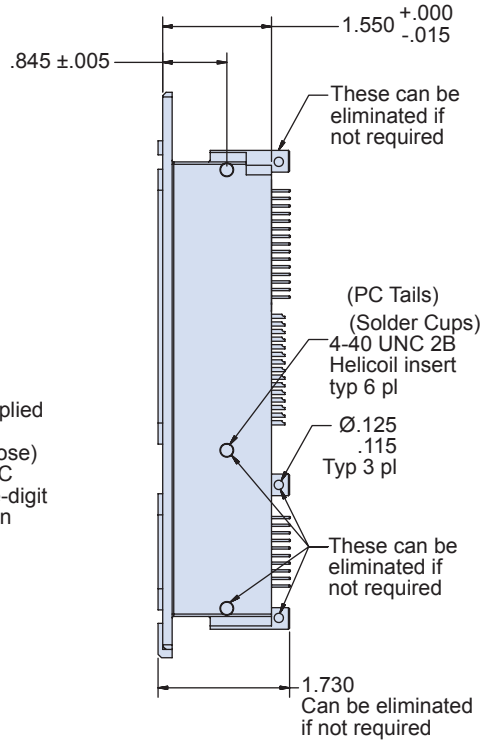
Insert Arrangement
01 - 2 Digit Code - Ref ARINC 600 ATT 19, and Table II

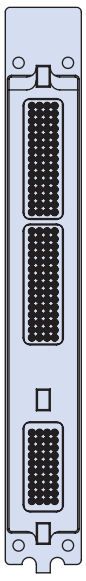
Filter Topology
P - Low Pass Pi Type Filter
C - Low Pass C Type Filter

A - Filter Capacitance Class



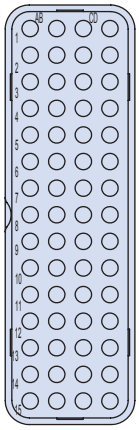




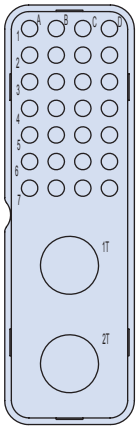


240-601
ARINC 600 Size 1
Environmentally Compatible Filter Receptacle

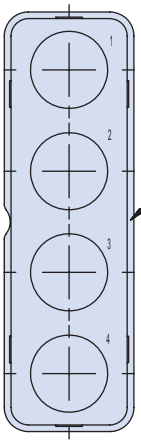
TABLE II: INSERT ARRANGEMENTS



Insert 01
60 #22

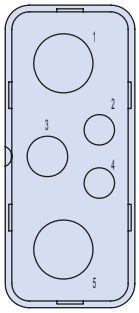


Insert 20
30 #22
2 #8

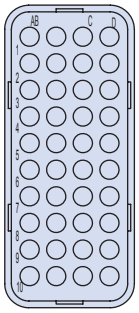


Insert contains grounded coax non-filtered

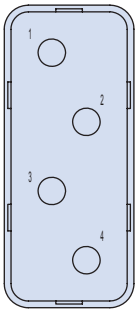
Insert 27
4 #8



Insert 03
2 #5 Coax
1 #12
2 #16



Insert 19
40 #22



Insert 21
4 #12

Size 8 contacts are removable and must be specified grounded or non-grounded. All other contacts are non-removable.

TABLE I: CAPACITANCE CODE

CODE	Pi Type Filter (pF)	C Type Filter (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

APPLICATION NOTES

1. Glenair ARINC 600 receptacle is designed to mate with COTS ARINC 600 plug IAW ARINC 600 specification with the same insert configuration
2. Material/Finish:
   Shell: Aircraft grade aluminum
   Insulators: High grade rigid dielectric
   PC tail and solder cup contacts: Copper alloy/gold over nickel
3. Assembly to be permanently identified with (space permitting) Glenair, part number, cavity and contact location, and date code.
4. Insert arrangement in accordance with ARINC 600 (arrangement shown for reference only)
5. EMI filter receptacle connector designed to meet requirements of MIL-STD-2120 and ARINC 600.
6. Electrical Parameters:
   Working voltage - 200 VDC, 115 VAC 400Hz
   Dielectric withstanding voltage (DWV) - 500 VDC min
   Insulation resistance (IR) - 5000 Megohms min at 200 VDC
7. Custom filter types available (consult factory).
8. Additional mounting features available (consult factory).
9. Environmental compatibility features:
   Single piece shell to limit any contaminants or moisture ingress due to post-processing such as solder wash.
   Termination area sealed via o-rings around each module.
   Termination may utilize sealing compound to further aid in environmental compatiblilty

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E-Mail: sales@glenair.com

240-602
ARINC 600 Size 2
Environmentally Compatible Filter Receptacle

Basic Number		Finish		Termination	Cavity Insert A	Cavity Insert B	Cavity Insert C
240	- 602	M	045	P	- 02PA	02PA	16PA

Basic Number

Finish
M - Electroless Nickel
C - Yellow Cadmium over Nickel

Termination
P - PC Tail
S - Solder Cup

Cavity Insert A

Cavity Insert B

Cavity Insert C

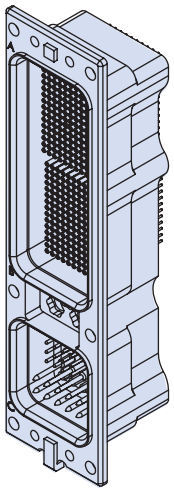
ARINC 600:
602 - Shell Size 2

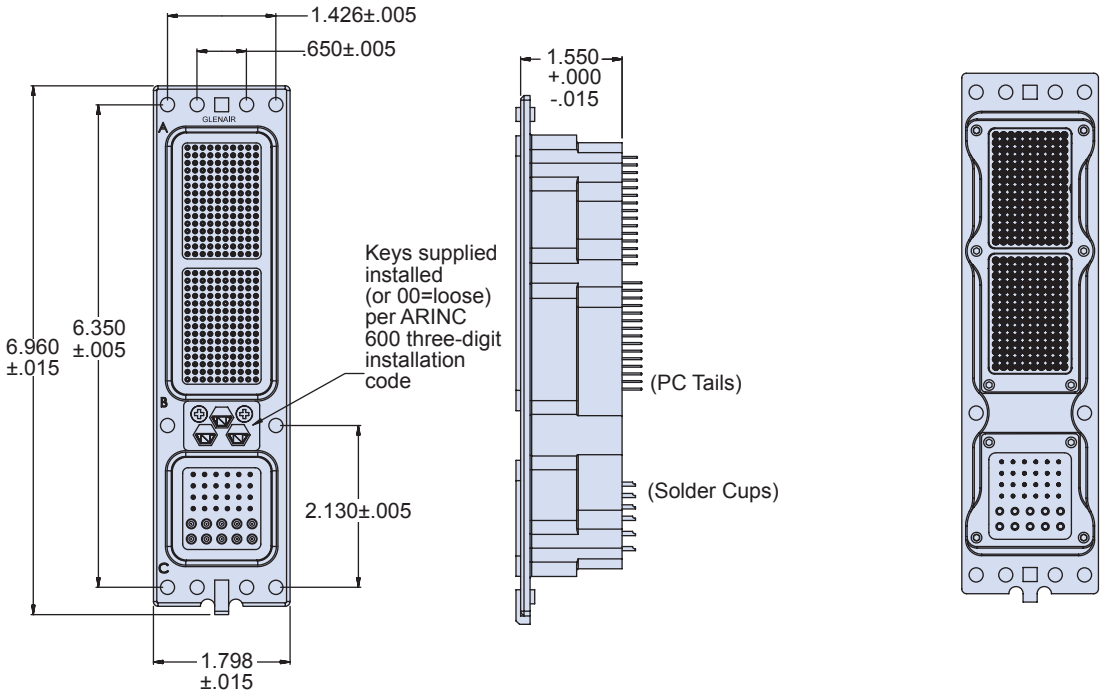
Key Position
3 Digit Code Ref ARINC 600 ATT 18

Insert Arrangement
02 - 2 Digit Code - Ref ARINC 600 ATT 19, and Table II

Filter Topology
P - Low Pass Pi Type Filter
C - Low Pass C Type Filter

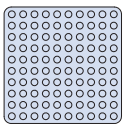
A - Filter Capacitance Class

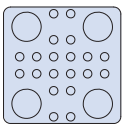


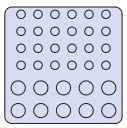


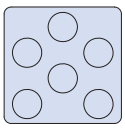
240-602
ARINC 600 Size 2
Environmentally Compatible Filter Receptacle

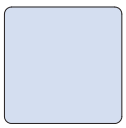
TABLE II: INSERT ARRANGEMENTS

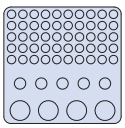

Insert 07
100 #22

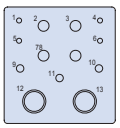

Insert 24
20 #20
4 #8 Twinax

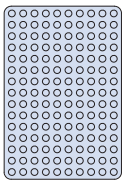

Insert 16
24 #20
10 #16

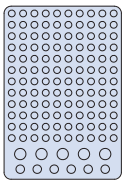

Insert 13
6 #8 Twinax
(Grounded)

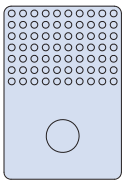

Insert blank
(for cavity C)

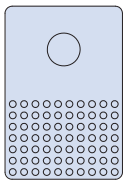

Insert 22
50 #16
4 #12

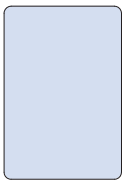

Insert 04
2 #5
4 #12
3 #16
4 #20

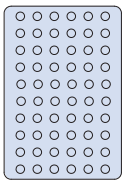

Insert 02
150 #22

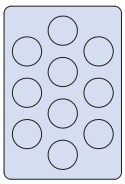

Insert 15
110 #22
6 #20
5 #12 (Twinax)

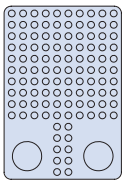

Insert 05
70 #22
1 #5 (Coax)


Insert 08
70 #22
1 #5 (Coax)


Insert blank
(for cavity
A, B)


Insert 17
60 #20


Insert 12
10 #8 Twinax
(grounded)


Insert 14
118 #22
2 #8 (Twinax)

Size 8 contacts are removable and must be specified grounded or non-grounded. All other contacts are non-removable.

TABLE I: CAPACITANCE CODE

CODE	Pi Type Filter (pF)	C Type Filter (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

APPLICATION NOTES

1. Glenair ARINC 600 receptacle is designed to mate with COTS ARINC 600 plug IAW ARINC 600 specification with the same insert configuration
2. Material/Finish:
   Shell: Aircraft grade aluminum
   Insulators: High grade rigid dielectric
   PC tail and solder cup contacts: Copper alloy/gold over nickel
3. Assembly to be permanently identified with (space permitting) Glenair, part number, cavity and contact location, and date code.
4. Insert arrangement in accordance with ARINC 600
5. EMI filter receptacle connector designed to meet or exceed requirements of MIL-STD-2120 and ARINC 600.
6. Electrical Parameters:
   Working voltage - 200 VDC, 115 VAC 400Hz
   Dielectric withstanding voltage (DWV) - 500 VDC min
   Insulation resistance (IR) - 5000 Megohms min at 200 VDC
7. Custom filter types available (consult factory).
8. Additional mounting features available (consult factory).
9. Environmental compatibility features:
   Single piece shell to limit any contaminants or moisture ingress due to post-processing such as solder wash.
   Termination area sealed via o-rings around each module.
   Termination may utilize sealing compound to further aid in environmental compatiblilty

CAGE Codes 06324
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www.glenair.com
E-Mail: sales@glenair.com

240-603
ARINC 600 Size 3
Environmentally Compatible Filter Receptacle

Basic Number		Finish		Key Position	Termination		Cavity Insert A	Cavity Insert B	Cavity Insert C	Cavity Insert D	Cavity Insert E	Cavity Insert F
240	-	603	M	045	P	-	02PA	02PA	07PA	02PA	02PA	07PA

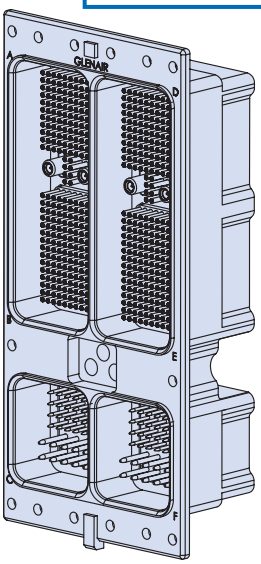
ARINC 600:
603 - Shell Size 3

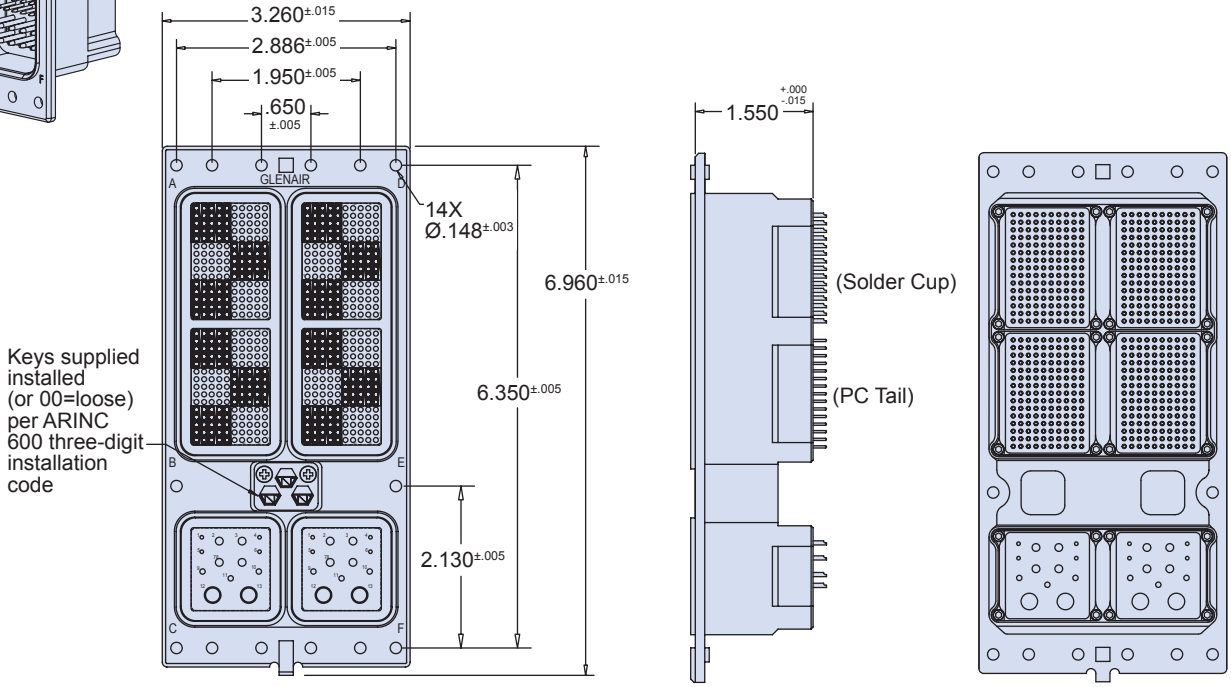
Key Position
3 Digit Code Ref ARINC 600 ATT 18

Insert Arrangement
02 - 2 Digit Code - Ref ARINC 600 ATT 19, and Table II

Filter Topology
P - Low Pass Pi Type Filter
C - Low Pass C Type Filter

A - Filter Capacitance Class





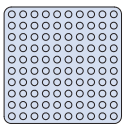
G

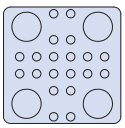
CAGE Codes 06324

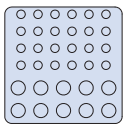
Printed in U.S.A.

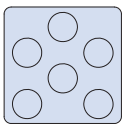
240-603
ARINC 600 Size 3
Environmentally Compatible Filter Receptacle

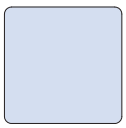
TABLE II: INSERT ARRANGEMENTS

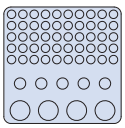

Insert 07
100 #22

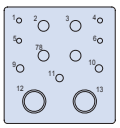

Insert 24
20 #20
4 #8 Twinax

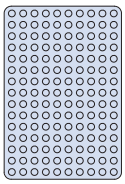

Insert 16
24 #20
10 #16

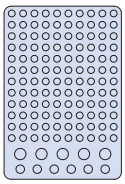

Insert 13
6 #8 Twinax
(Grounded)

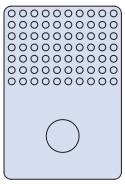

Insert blank
(for cavity C)

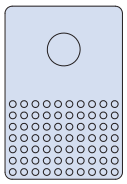

Insert 22
50 #16
4 #12

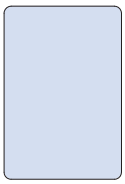

Insert 04
2 #5
4 #12
3 #16
4 #20

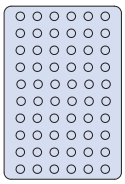

Insert 02
150 #22

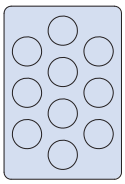

Insert 15
110 #22
6 #20
5 #12 (Twinax)

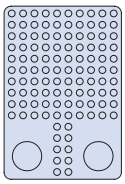

Insert 05
70 #22
1 #5 (Coax)


Insert 08
70 #22
1 #5 (Coax)


Insert blank
(for cavity
A, B)


Insert 17
60 #20


Insert 12
10 #8 Twinax
(grounded)


Insert 14
118 #22
2 #8 (Twinax)

Size 8 contacts are removable and must be specified grounded or non-grounded. All other contacts are non-removable.

TABLE I: CAPACITANCE CODE

CODE	Pi Type Filter (pF)	C Type Filter (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

APPLICATION NOTES

1. Glenair ARINC 600 receptacle is designed to mate with COTS ARINC 600 plug IAW ARINC 600 specification with the same insert configuration and opposite gender
2. Material/Finish:
   Shell: Aircraft grade aluminum
   Insulators: High grade rigid dielectric
   PC tail and solder cup contacts: Copper alloy/gold over nickel
3. Assembly to be permanently identified with (space permitting) Glenair, part number, cavity and contact location, and date code.
4. Insert arrangement in accordance with ARINC 600
5. EMI filter receptacle connector designed to meet or exceed requirements of MIL-STD-2120 and ARINC 600.
6. Electrical Parameters:
   Working voltage - 200 VDC, 115 VAC 400Hz
   Dielectric withstanding voltage (DWV) - 500 VDC min
   Insulation resistance (IR) - 5000 Megohms min at 200 VDC
7. Custom filter types available (consult factory).
8. Additional mounting features available (consult factory).
9. Environmental compatibility features:
   Single piece shell to limit any contaminants or moisture ingress due to post-processing such as solder wash.
   Termination area sealed via o-rings around each module.
   Termination may utilize sealing compound to further aid in environmental compatiblilty

CAGE Codes 06324
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ARINC 600 Connectors
Polarizing Positions
of Available Keying Positions

Position	Plug			Receptacle		
	Left Post	Center Post	Right Post	Left Post	Center Post	Right Post
00	•	•	•	•	•	•
01	1	1	1	4	4	4
02	2	1	1	4	4	3
03	3	1	1	4	4	2
04	4	1	1	4	4	1
05	5	1	1	4	4	6
06	6	1	1	4	4	5
07	1	1	6	5	4	4
08	2	1	6	5	4	3
09	3	1	6	5	4	2
10	4	1	6	5	4	1
11	5	1	6	5	4	6
12	6	1	6	5	4	5
13	1	1	5	6	4	4
14	2	1	5	6	4	3
15	3	1	5	6	4	2
16	4	1	5	6	4	1
17	5	1	5	6	4	6
18	6	1	5	6	4	5
19	1	1	4	1	4	4
20	2	1	4	1	4	3
21	3	1	4	1	4	2
22	4	1	4	1	4	1
23	5	1	4	1	4	6
24	6	1	4	1	4	5
25	1	1	3	2	4	4
26	2	1	3	2	4	3
27	3	1	3	2	4	2
28	4	1	3	2	4	1
29	5	1	3	2	4	6
30	6	1	3	2	4	5
31	1	1	2	3	4	4
32	2	1	2	3	4	3
33	3	1	2	3	4	2
34	4	1	2	3	4	1
35	5	1	2	3	4	6
36	6	1	2	3	4	5
37	1	2	1	4	3	4
38	2	2	1	4	3	3
40	4	2	1	4	3	1
41	5	2	1	4	3	6
42	6	2	1	4	3	5
43	1	2	6	5	3	4
44	2	2	6	5	3	3
45	3	2	6	5	3	2
46	4	2	6	5	3	1
47	5	2	6	5	3	6
48	6	2	6	5	3	5
49	1	2	5	6	3	4
50	2	2	5	6	3	3
51	3	2	5	6	3	2
52	4	2	5	6	3	1
53	5	2	5	6	3	6
54	6	2	5	6	3	5

Position	Plug			Receptacle		
	Left Post	Center Post	Right Post	Left Post	Center Post	Right Post
55	1	2	4	1	3	4
56	2	2	4	1	3	3
57	3	2	4	1	3	2
58	4	2	4	1	3	1
59	5	2	4	1	3	6
60	6	2	4	1	3	5
61	1	2	3	2	3	4
62	2	2	3	2	3	3
63	3	2	3	2	3	2
64	4	2	3	2	3	1
65	5	2	3	2	3	6
66	6	2	3	2	3	5
67	1	2	2	3	3	4
68	2	2	2	3	3	3
69	3	2	2	3	3	2
70	4	2	2	3	3	1
71	5	2	2	3	3	6
72	6	2	2	3	3	5
73	1	3	1	4	2	4
74	2	3	1	4	2	3
75	3	3	1	4	2	2
76	4	3	1	4	2	1
77	5	3	1	4	2	6
78	6	3	1	4	2	5
79	1	3	6	5	2	4
80	2	3	6	5	2	3
81	3	3	6	5	2	2
82	4	3	6	5	2	1
83	5	3	6	5	2	6
84	6	3	6	5	2	5
85	1	3	5	6	2	4
86	2	3	5	6	2	3
87	3	3	5	6	2	2
88	4	3	5	6	2	1
89	5	3	5	6	2	6
90	6	3	5	6	2	5
91	1	3	4	1	2	4
92	2	3	4	1	2	3
93	3	3	4	1	2	2
94	4	3	4	1	2	1
95	5	3	4	1	2	6
96	6	3	4	1	2	5
97	1	3	3	2	2	4
98	2	3	3	2	2	3
99	3	3	3	2	2	2
100	4	3	3	2	2	1
101	5	3	3	2	2	6
102	6	3	3	2	2	5
103	1	3	2	3	2	4
104	2	3	2	3	2	3
105	3	3	2	3	2	2
106	4	3	2	3	2	1
107	5	3	2	3	2	6
108	6	3	2	3	2	5

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ARINC 600 Connectors
Polarizing Positions
of Available Keying Positions

Position	Plug			Receptacle		
	Left Post	Center Post	Right Post	Left Post	Center Post	Right Post
109	1	4	1	4	1	4
110	2	4	1	4	1	3
111	3	4	1	4	1	2
112	4	4	1	4	1	1
113	5	4	1	4	1	6
114	6	4	1	4	1	5
115	1	4	6	5	1	4
116	2	4	6	5	1	3
117	3	4	6	5	1	2
118	4	4	6	5	1	1
119	5	4	6	5	1	6
120	6	4	6	5	1	5
121	1	4	5	6	1	4
122	2	4	5	6	1	3
123	3	4	5	6	1	2
124	4	4	5	6	1	1
125	5	4	5	6	1	6
126	6	4	5	6	1	5
127	1	4	4	1	1	4
128	2	4	4	1	1	3
129	3	4	4	1	1	2
130	4	4	4	1	1	1
131	5	4	4	1	1	6
132	6	4	4	1	1	5
133	1	4	3	2	1	4
134	2	4	3	2	1	3
135	3	4	3	2	1	2
136	4	4	3	2	1	1
137	5	4	3	2	1	6
138	6	4	3	2	1	5
139	1	4	2	3	1	4
140	2	4	2	3	1	3
141	3	4	2	3	1	2
142	4	4	2	3	1	1
143	5	4	2	3	1	6
144	6	4	2	3	1	5
145	1	5	1	4	6	4
146	2	5	1	4	6	3
147	3	5	1	4	6	2
148	4	5	1	4	6	1
149	5	5	1	4	6	6
150	6	5	1	4	6	5
151	1	5	6	5	6	4
152	2	5	6	5	6	3
153	3	5	6	5	6	2
154	4	5	6	5	6	1
155	5	5	6	5	6	6
156	6	5	6	5	6	5
157	1	5	5	6	6	4
158	2	5	5	6	6	3
159	3	5	5	6	6	2
160	4	5	5	6	6	1
161	5	5	5	6	6	6
162	6	5	5	6	6	5

Position	Plug			Receptacle		
	Left Post	Center Post	Right Post	Left Post	Center Post	Right Post
163	1	5	4	1	6	4
164	2	5	4	1	6	3
165	3	5	4	1	6	2
166	4	5	4	1	6	1
167	5	5	4	1	6	6
168	6	5	4	1	6	5
169	1	5	3	2	6	4
170	2	5	3	2	6	3
171	3	5	3	2	6	2
172	4	5	3	2	6	1
173	5	5	3	2	6	6
174	6	5	3	2	6	5
175	1	5	2	3	6	4
176	2	5	2	3	6	3
177	3	5	2	3	6	2
178	4	5	2	3	6	1
179	5	5	2	3	6	6
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181	1	6	1	4	5	4
182	2	6	1	4	5	3
183	3	6	1	4	5	2
184	4	6	1	4	5	1
185	5	6	1	4	5	6
186	6	6	1	4	5	5
187	1	6	6	5	5	4
188	2	6	6	5	5	3
189	3	6	6	5	5	2
190	4	6	6	5	5	1
191	5	6	6	5	5	6
192	6	6	6	5	5	5
193	1	6	5	6	5	4
194	2	6	5	6	5	3
195	3	6	5	6	5	2
196	4	6	5	6	5	1
197	5	6	5	6	5	6
198	6	6	5	6	5	5
199	1	6	4	1	5	4
200	2	6	4	1	5	3
201	3	6	4	1	5	2
202	4	6	4	1	5	1
203	5	6	4	1	5	6
204	6	6	4	1	5	5
205	1	6	3	2	5	4
206	2	6	3	2	5	3
207	3	6	3	2	5	2
208	4	6	3	2	5	1
209	5	6	3	2	5	6
210	6	6	3	2	5	5
211	1	6	2	3	5	4
212	2	6	2	3	5	3
213	3	6	2	3	5	2
214	4	6	2	3	5	1
215	5	6	2	3	5	6
216	6	6	2	3	5	5

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Glenair®

2570-1269
ARINC 828
MIL-DTL-38999 Series III Type
Quadrax Plug/Receptacle for EFB Standard

Basic Number		Connector Style		Insert Arrangement Dash No.		Alternate Key Position per MIL-DTL-38999	
2570	- 1269	NF	00 - 25Q -	17	B	A	

Material/Finish
- *M - Al/Electroless Nickel*
- *NF - Al/O.D. Cadmium over Nickel*
- *MT - Al/Nickel PTFE*
- *XM - Composite/Electroless Nickel*
- *XW - Composite/O.D. Cadmium over Nickel*
- *XMT - Composite/Nickel PTFE*

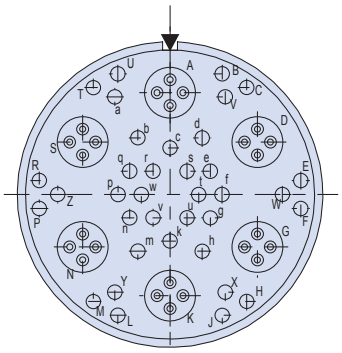
Connector Style
- *G6 - Plug*
- *00 - Receptacle, Wall Mount with Slotted Holes*

Shell Size

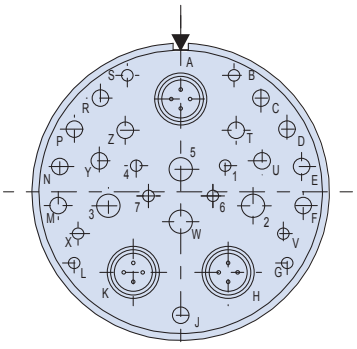
Insert Designator
- *A - Pin Insert (Less Contacts)*
- *B - Socket Insert (Less Contacts)*
- *S1 - Skt Contacts Included, See Table I*
- *S2 - Skt Contacts Included, See Table I*
- *P1 - Pin Contacts Included, See Table I*
- *P2 - Pin Contacts Included, See Table I*

Alternate Key Position per MIL-DTL-38999
- *A, B, C, D, or E*
- *N - Normal*

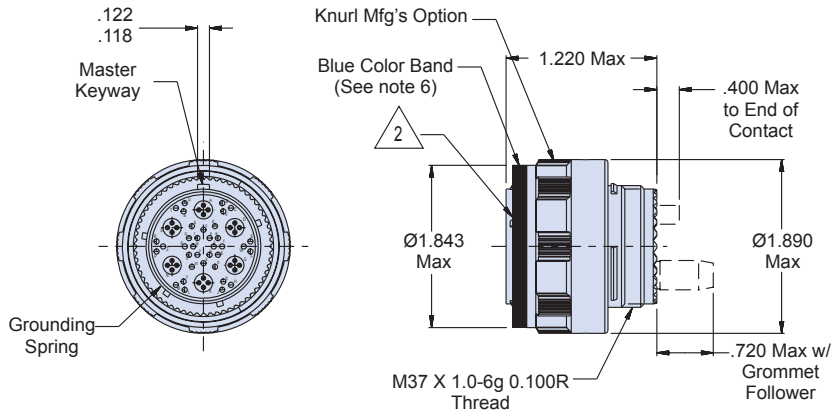
FIGURE 1: INSERT ARRANGEMENTS



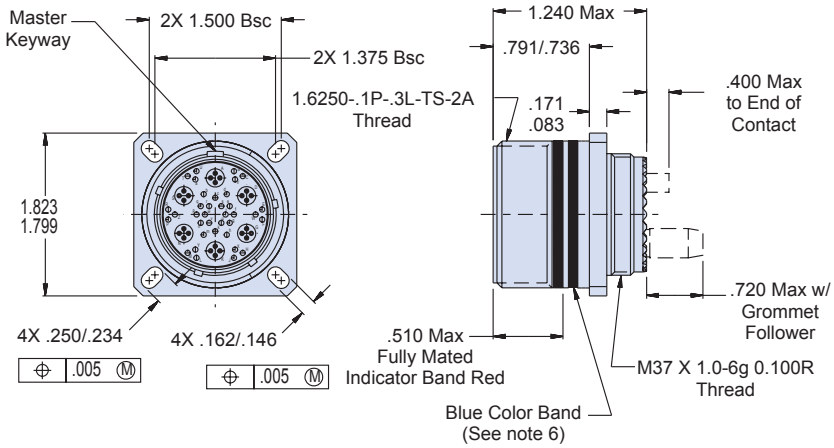
Arrangement 25Q-17
36 #22 Contacts
6 #8 Quadrax Contacts
(J2, J3, J4)



Arrangement 25Q-20
(IAW prEN 3645-001)
10 #20 Contacts
13 #16 Contacts
4 #12 Contacts
3 #8 QuadraxContacts
(J1)



G6 - Plug



00-Wall Mount Receptacle
With Slotted Holes

2570-1269
ARINC 828
MIL-DTL-38999 Series III Type
Quadrax Plug/Receptacle for EFB Standard

Glenair®

Table I: Cross-Reference to ARINC 828 Connectors (Wall Mount Receptacle				
ARINC 828 (Recptacle)	Glenair Conn P/N (See Notes 3 and 4)	Quadrax Contact Socket P/N	Qty	Reference Cable Accommodated
J1	2570-1269M00-25Q-20BA	Not Supplied (To Be Ordered Separately. See Note 5)		
	2570-1269M00-25Q-20S1A	854-002-02F	3	PIC E51424;TENSOLITE NF24Q100; BMS 13-72T03C04G024*; ECS 422404*
	2570-1269M00-25Q-20S2A	854-002-04F	3	PIC E50424*; ABS 1503KD24*
J2	2570-1269M00-25Q-17BA	Not Supplied (To Be Ordered Separately. See Note 5)		
	2570-1269M00-25Q-17S1A	854-002-02F	6	PIC E51424;TENSOLITE NF24Q100; BMS 13-72T03C04G024*; ECS 422404*
	2570-1269M00-25Q-17S2A	854-002-04F	6	PIC E50424*; ABS 1503KD24*
J3	2570-1269M00-25Q-17BB	Not Supplied (To Be Ordered Separately. See Note 5)		
	2570-1269M00-25Q-17S1B	854-002-02F	6	PIC E51424;TENSOLITE NF24Q100; BMS 13-72T03C04G024*; ECS 422404*
	2570-1269M00-25Q-17S2B	854-002-04F	6	PIC E50424*; ABS 1503KD24*
J4	2570-1269M00-25Q-17BC	Not Supplied (To Be Ordered Separately. See Note 5)		
	2570-1269M00-25Q-17S1C	854-002-02F	6	PIC E51424;TENSOLITE NF24Q100; BMS 13-72T03C04G024*; ECS 422404*
	2570-1269M00-25Q-17S2C	854-002-04F	6	PIC E50424*; ABS 1503KD24*

Recommended
Panel Mounting Holes
(Receptacle)

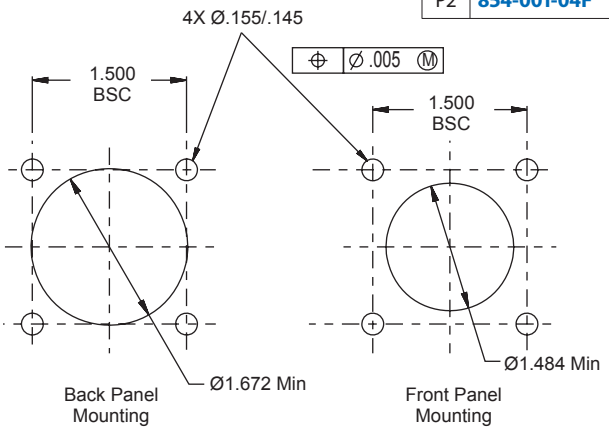


Table II: Quadrax Contact Pin P/N for Plug Connector		
	Quadrax Contact Pin P/N	Reference Cable Accommodated
P1	854-001-02F	PIC E51424;TENSOLITE NF24Q100; BMS 13-72T03C04G024*; ECS 422404*
P2	854-001-04F	PIC E50424*; ABS 1503KD24*

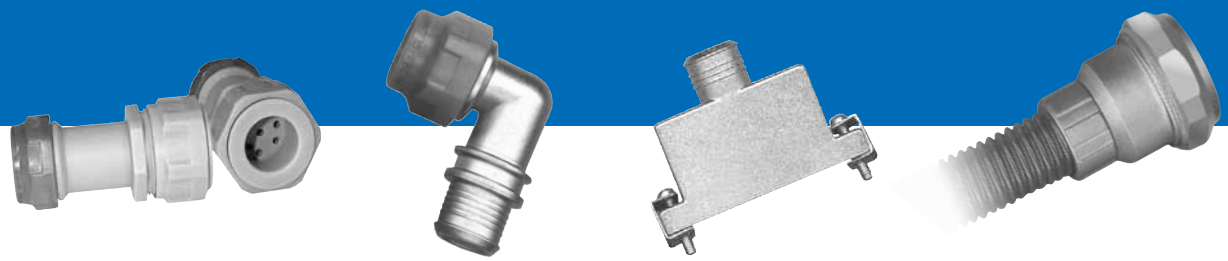
Table III: Signal/Power Contact P/N (to be supplied w/ "P*" or "S*")		
Pin/Socket	Contact Size	Contact P/N
Pin	22	M39029/58-360
	20	M39029/58-363
	16	M39029/58-364
	12	M39029/58-365
Socket	22	M39029/56-348
	20	M39029/56-351
	16	M39029/56-352
	12	M39029/56-353

APPLICATION NOTES

1. Material/Finishes:
   Receptacle, Barrel, Coupling Nut - See P/N Development
   Insulators - High Grade Rigid Dielectric
   Seals - Fluorosilicone
   Grounding Spring - BeCu Alloy
   Quadrax Contacts -
   Pin - See 854-001-XX (XX Denotes Cable Type, See Table II)
   Socket - See 854-002-XX (XX Denotes Cable Type, See Table I)
   Grommet Follower - 687-754-8-X
   Signal/Power Contacts - When insert designator is P* or S*, the Signal/Power contacts in Table III will be shipped with connector, as required, along with Quadrax contacts.
2. Insert arrangement is in accordance with MIL-STD-1560 and Figure 1
3. Common EFB connector material/finish IAW ARINC 828 is Al/ Electroless Nickel, code "M". Other material/finishes are also available, see P/N development for ordering.
4. All "J*" connectors, as defined in ARINC 828, are receptacles and their contacts are sockets. The mating plug connectors with pin contacts are not defined in the standard, and can be ordered as shown in P/N development.
5. Glenair connector is designed to accept Glenair Quadrax contacts only.
6. Blue color band indicates rear release system.

CAGE Codes 06324
Printed in U.S.A.

Ten Reasons to Keep Glenair at the Top of Your List of Backshell Suppliers



1. ***We offer the lowest total cost of ownership in the interconnect industry:*** From our cost-saving "no minimum order" policy to our free product samples and application engineering, Glenair provides the best value in connector accessories available today.

2. ***Our full spectrum product lines make for one-stop-shopping:*** We have the most complete selection of circular and rectangular backshells and accessories in the world, including every Mil-Spec slash number and more composite designs than the rest of the industry combined.

3. ***We have the largest capacity, broadest capability factory in the business*** and the knowledge and expertise to handle any production requirement no matter how large or complex.

4. ***We've provided complete convenience in ordering since 1956*** (that's *your* convenience not ours): choose factory direct, your local Glenair office or your favorite distributor.

5. ***We care as much about quality as you do:*** Glenair is ISO 9001:200 and AS9100: 2004 Rev B Certified.

6. ***We have over 65,000 accessory part numbers ready for immediate shipment*** including every AS85049 accessory and thousands of Glenair's most popular rectangular and circular backshell part numbers.

7. ***Our turnaround on quotes and custom orders is the fastest in the industry:*** We offer 24 hour turnaround on RFQ's and just 2 to 3 weeks delivery on custom orders for everything from dustcaps to EMI shielding accessories.

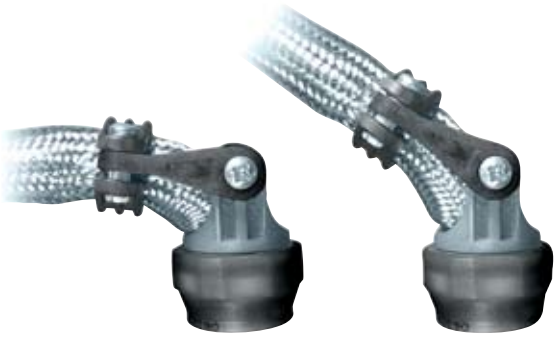
8. ***We have the largest and most experienced support staff in the business,*** including sales and engineering in every major market. We offer free on-site application engineering and the support of dedicated product managers for every interconnect discipline.

9. ***We understand interconnect systems from the ground up:*** We're the only connector, backshell and accessory supplier to also operate our own full service cable harness and conduit assembly facility.

10. ***We're committed:*** We've served the backshell and connector accessory market since 1956 and we're committed to meeting the evolving needs of our customers.

Glenair: A World of Interconnect Solutions

EMI Shielding Accessories: Backshells, Tubular Braid, Shorting Plugs and Other EMI Noise Suppression Technologies



PRODUCT FEATURES

- **Glenair is the world's largest supplier of EMI shielding backshells and connector accessories. Over 65,000 part numbers are in stock and ready for same-day shipment**
- **Section includes a small selection of the most practical EMI noise suppression and shielding devices**
- **Cable shield termination backshells for all filter connector series**
- **Military standard EMI shielding backshells, shorting plugs and tubular braiding available for complete electromagnetic compatibility**

Because the Art of EMI Management Usually Calls for More Technology Than Just a Filtered Connector

Backshells: A Part of Every Well-Designed EMI Management Solution

Effective shielding of avionic devices must anticipate both “radiated susceptibility” (the degree to which outside interference affects the reliable functioning of equipment) and “radiated emissions” (the extent to which the device itself creates electromagnetic waves which can affect its function). In both cases, the techniques for managing the interference include reflecting the signals outright, reducing entry points in equipment and cable shields, absorbing the interference in permeable material and dissipating it as heat, or conducting the EMI along the skin of the device/cable and taking it to ground.

In practical terms, EMI management is accomplished by plating the skins of cases and cable shields, building up the density (thickness) of shield material, or eliminating line-of-sight entry points through which electromagnetic waves can penetrate or escape.

In interconnect applications, wires and cables are typically shielded by placing a conductive material between the cable conductor and its outer jacket, or by covering individual conductors within a cable with shielding material. Again, the purpose of such shielding is to either capture the EMI and take it to ground or to dissipate the interfering signal as heat. Shields must also be effectively terminated to the connector backshell lest radiation enter the system at the backshell/connector/shield interface and defeat the purpose of the shield.

Glenair understands that the management of EMI usually includes technology above and beyond a filterd connector. We offer thousands of EMI management products, and we've organized a small selection of some of the most practical devices here for use in conjunction with filtered connector products.

CAGE Codes 06324
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Glenair®

Table I: Backshell Interface Dimensions

TABLE I: BACKSHELL INTERFACE DIMENSIONS

CONNECTOR DESIGNATOR			A THREAD REFERENCE	B DIA MAX	C DIA MAX	D DIA MAX	E DIA MAX
A	F	H					
	08 [9]		7/16 – 28 UNEF	.590 (15.)	.650 (16.5)	.770 (19.6)	.690 (17.5)
		09 [A]	M12 x 1 – 6H	.650 (16.5)	.770 (19.6)		.940 (24.8)
08			1/2 – 20 UNF	.650 (16.5)	.650 (16.5)		.690 (17.5)
03	10 [11]		9/16 – 24 UNEF	.720 (18.3)	.770 (19.6)	.890 (22.6)	.820 (20.8)
		11 [B]	M15 x 1 – 6H	.770 (19.6)	.820 (20.8)		1.060 (26.9)
10			5/8 – 24 UNEF	.770 (19.6)	.770 (19.6)	.890 (22.6)	.820 (20.8)
	12 [13]		11/16 – 24 UNEF	.840 (21.3)	.890 (22.6)	1.020 (25.9)	.940 (23.8)
		13 [C]	M18 x 1 – 6H	.890 (22.6)	.940 (23.9)		1.170 (29.7)
12 [7]			3/4 – 20 UNEF	.970 (24.6)	.940 (23.9)	1.020 (25.9)	.940 (23.8)
	14 [15]		13/16 – 20 UNEF	.970 (24.6)	1.020 (29.2)	1.150 (29.2)	1.060 (26.9)
		15 [D]	M22 x 1 – 6H	1.030 (26.2)	1.070 (26.2)		1.290 (32.7)
14 [12]			7/8 – 20 UNEF	1.090 (27.7)	1.020 (25.9)	1.150 (29.2)	1.060 (26.9)
	16 [17]		15/16 – 20 UNEF	1.090 (27.7)	1.150 (29.2)	1.260 (32.0)	1.170 (29.7)
		17 [E]	M25 x 1 – 6H	1.150 (29.2)	1.210 (30.7)		1.420 (36.1)
16 [19]			1 – 20 UNEF	1.220 (29.2)	1.210 (30.7)	1.230 (31.2)	1.170 (29.7)
18 [27]	18 [19]		1 1/16 – 18 UNEF	1.220 (31.0)	1.230 (31.2)	1.400 (35.6)	1.290 (32.7)
		19 [F]	M28 x 1 – 6H	1.280 (32.5)	1.360 (34.5)		1.540 (39.1)
20 [37]	20 [21]		1 3/16 – 18 UNEF	1.340 (34.0)	1.360 (34.5	1.530 (38.9)	1.420 (36.0)
		21 [G]	M31 x 1 – 6H	1.410 (35.8)	1.480 (37.6)		1.670 (42.4)
22	22 [23]		1 5/16 – 18 UNEF	1.470 (37.3	1.480 (37.6)	1.600 (40.6)	1.540 (39.1)
		23 [H]	M34 x 1 - 6H	1.530 (38.9)	1.600 (40.6)		2.010 (51.1)
24	24 [25]		1 7/16 – 18 UNEF	1.590 (40.4)	1.730 (43.9)	1.940 (49.3)	1.660 (42.2)
		25 [J]	M37 x 1 – 6H	1.660 (42.2)	1.700 (43.2)		2.120 (53.8)
61			1 1/2 – 18 UNEF	1.660 (42.2)	1.670 (42.4)		
28			1 3/4 – 18 UNS	1.970 (50.0)	1.970 (50.0)		2.010 (51.1)
32			2 – 18 UNS	2.280 (57.9)	2.220 (56.4)		2.260 (57.4)
36			2 1/4 – 16 UN	2.530 (64.3)	2.47 (62.7)		2.530 (64.3)
40			2 1/2 – 16 UN	2.780 (70.6)	2.720 (69.1)		3.040 (77.2)
44			2 3/4 – 16 UN	3.030 (77.0)	2.970 (75.4)		
48			3 – 16 UN	3.220 (81.8)	3.220 (81.8)		

*Code C, MIL-C-22992, Left-Hand Thread. Connector designations depicted thus [ ] are for reference only and are not to be used in part number development.

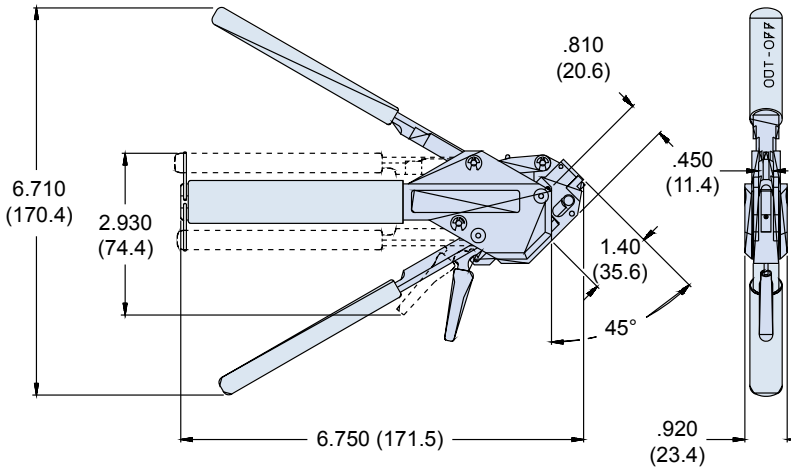
Fast, Cost-Effective Shielding Termination

The *BAND-IT*® clamping system provides quick, easy, cost-effective and highly reliable termination of braided metallic shielding or fabric braid. Two sizes of banding tools and bands (bands are also available in standard and extended lengths) allow complete flexibility in terminating EMI shielding and protective mechanical braiding to fiber optic and electrical harnesses. Glenair's complete line of *BAND-IT*® products are in stock and ready for immediate shipment.

Hand Banding Tool 600-058

The 600-058 Hand Banding Tool weighs 1.18 lbs., and is designed for standard clamping bands 600-052 and 600-090 (see page 36) in a tension range from 100 to 180 lbs. Calibrate at 150 lbs. ± 5 lbs. for most shield terminations. Tool and band should never be lubricated.

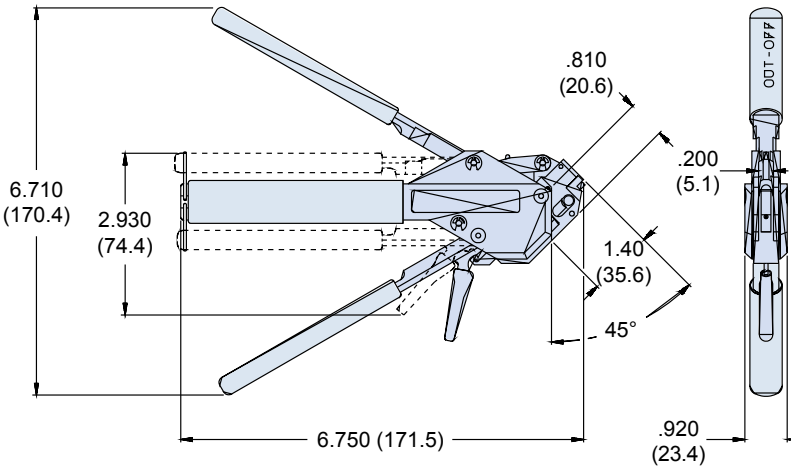
Reference: *BAND-IT*® part number A40199.



Hand Micro Banding Tool 600-061

The 600-061 Hand Micro Banding Tool weighs 1.18 lbs., and is designed for micro clamping bands 600-057 and 600-083 (see page 36) in a tension range from 50 to 85 lbs. Calibrate at 75lbs +2 lbs. -7 lbs. for most shield terminations. Tool and band should never be lubricated.

Reference: *BAND-IT*® part number A30199.



H

The *BAND-IT*® Clamping System
EMI Shield Termination Instructions

1. Prepare cable braid for termination process (Figure 1).
2. Push braid forward over adapter retention lip to the adapter incline point (or .4" [10.2mm] minimum braid length). Milk braid as required to remove slack and ensure a snug fit around the shield termination area (Figure 2).
3. Prepare the band in the following manner:

   IMPORTANT: Due to Connector/ Adapter circumference, it may be necessary to prepare the band around the cable or retention area.

   A. Roll band through the buckle slot twice (bands must be double-coiled).

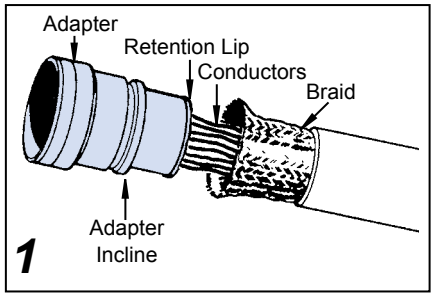
   B. Pull on band until mark (▷|) is within approximately .250 inch (6.4mm) of buckle slot (Figure 3). The band may be tightened further if desired.

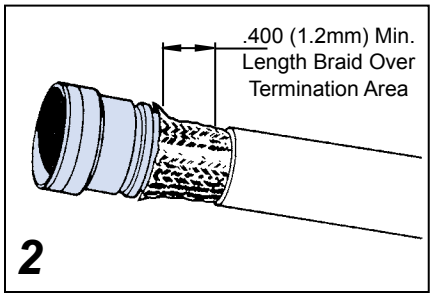
   NOTE: Prepared band should have (▷|) mark visible as shown in Figure 3.

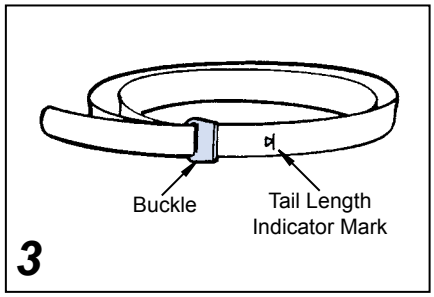
   Shield Termination Clamping Process (Figures 4 thru 8)

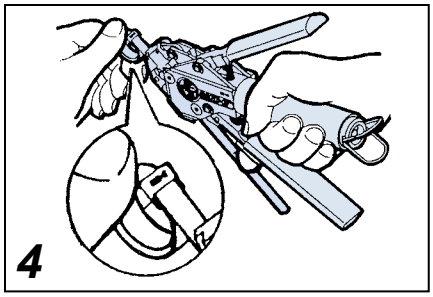
   NOTE: To free tool handles, move holding clips to center of tool.

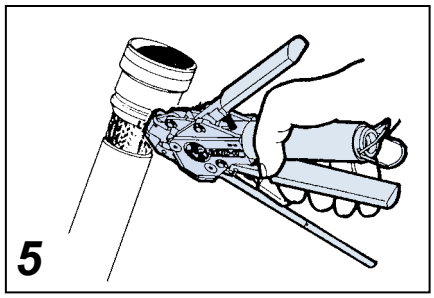
4. Squeeze gripper release lever and insert band into the front end opening of the too (NOTE: Circular portion of looped band must always face downward).
5. Aligning the band and tool with the shield termination area, squeeze black pull-up handle repeatedly using short strokes until it locks against tool body. (This indicates the band is compressed to the tool precalibrated tension).

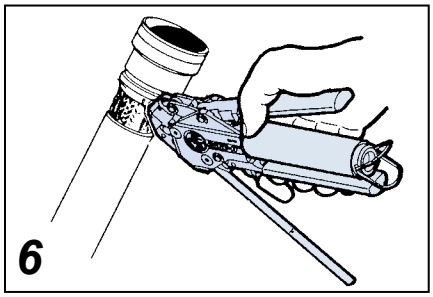


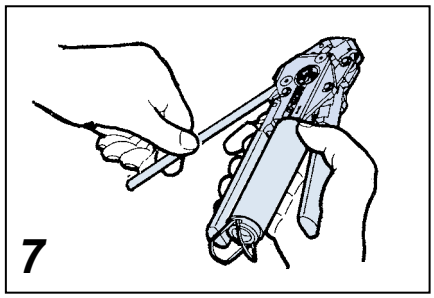


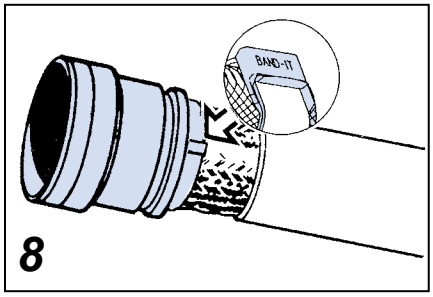








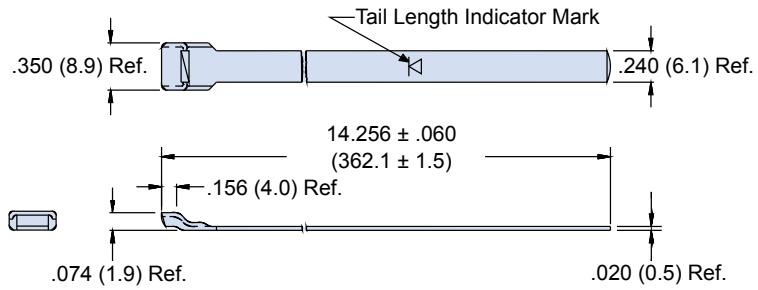




NOTE: If alignment of band and shield is unsatisfactory, tension on band can be relaxed by pushing on slotted release lever on top of tool. Make adjustments as necessary and again, squeeze black pull-up handle.

6. Complete the clamping process by squeezing the gray cut-off handle.
7. Remove excess band from tool and dispose.
8. Inspect shield termination.

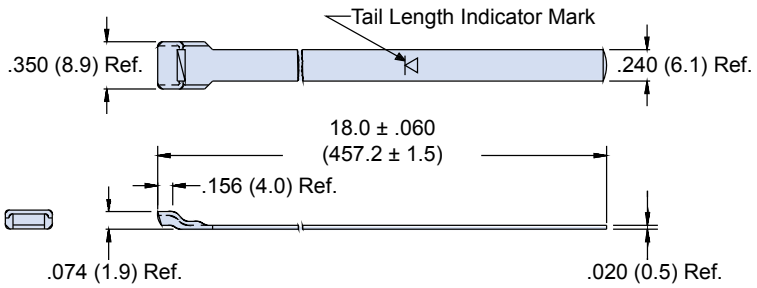
Standard Band 600-052 and Precoiled Standard Band 600-052-1



The 600-052 Standard Band is precision constructed of 300 Series SST/Passivate and designed for use with the 600-058 Hand Banding Tool or the 600-067 Pneumatic Banding Tool. Double-wrapped bands will accommodate diameters up to approximately 1.8 inches (45.7). Bands may be ordered flat (600-052) or precoiled (600-052-1). Bands come bagged and tagged in quantities from 1 to 100.

Reference: BAND-IT® Part Number A10086

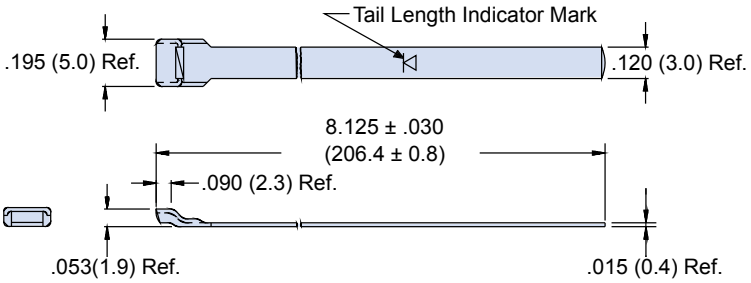
Extended-Length Standard Band 600-090 and Precoiled Extended-Length Standard Band 600-090-1



The 600-090 Extended Length Standard Band is precision constructed of 300 Series SST/Passivate, and designed for use with the 600-058 Hand Banding Tool or the 600-067 Pneumatic Banding Tool. Double-wrapped bands will accommodate diameters up to approximately 2.5 inches (63.5). Bands may be ordered flat (600-090), or precoiled (600-090-1). Bands come bagged and tagged in quantities from 1 to 100.

Reference: BAND-IT® Part Number A11086

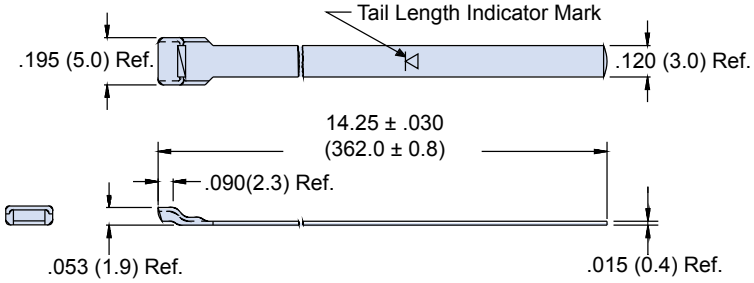
Micro-Band 600-057 Precoiled Micro-Band 600-057-1



The 600-057 Micro Band is precision constructed of 300 Series SST/Passivate, and designed for use with the 600-061 Hand Banding Tool or the 600-068 Pneumatic Banding Tool. Double-wrapped bands will accommodate diameters up to approximately .88 inches (22.4). Bands may be ordered flat (600-057), or precoiled (600-057-1). Bands come bagged and tagged in quantities from 1 to 100.

Reference: BAND-IT® Part Number A31186

Extended Length Micro-Band 600-083 Precoiled Micro-Band 600-083-1



The 600-083 Extended Length Micro-Band is precision constructed of 300 Series SST/Passivate, and designed for use with the 600-061 Hand Banding Tool or the 600-068 Pneumatic Banding Tool. Double-wrapped bands will accommodate diameters up to approximately 1.88 inches (47.8). Bands may be ordered flat (600-083), or precoiled (600-083-1). Bands come bagged and tagged in quantities from 1 to 100.

Reference: BAND-IT® Part Number A31089.

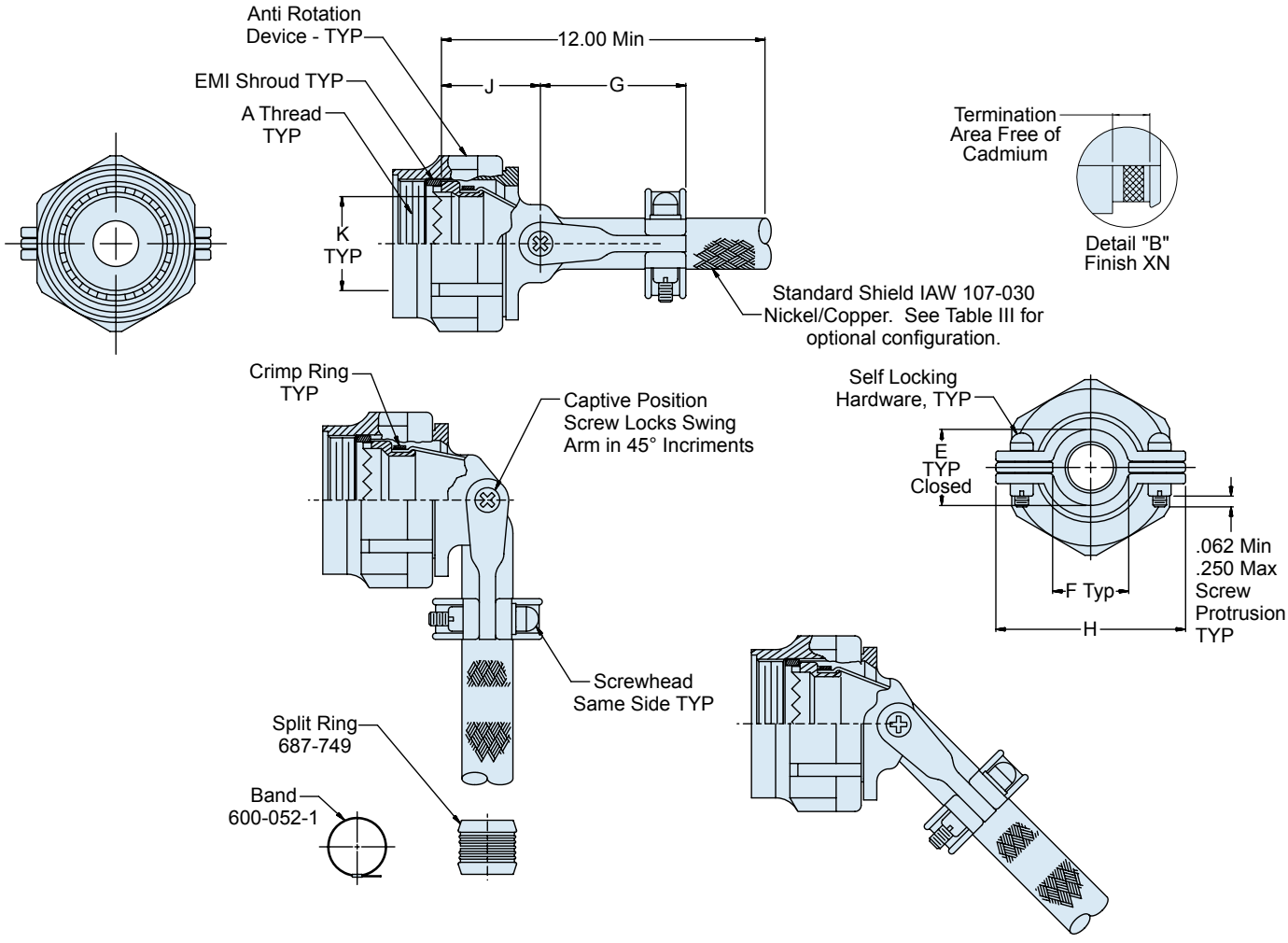
Metric dimensions (mm) are indicated in parentheses. Consult factory for diameters above 2.5 inches (63.5).

319-064
Composite Swing-Arm Backshell
with Shield Sock and
Self-Locking Rotatable Coupling

CONNECTOR DESIGNATOR:	
A	MIL-DTL-5015, -26482 Series II, and -83723 Series I and III
F	MIL-DTL-38999 Series I, II *(see note 3)*
H	MIL-DTL-38999 Series III and IV
SELF-LOCKING	
ROTATABLE COUPLING	

Product Series	Basic Part Number	Finish Symbol	Connector Shell Size	Split Ring / Band Option			
319	H	064	XO	15	B	R	14

- **Product Series**: *319 - EMI/RFI Shield Sock Assemblies*
- **Basic Part Number**
- **Finish Symbol** *(See Table III)*
- **Connector Shell Size** *(See Table II)*
- **Split Ring / Band Option**: *Split Ring (687-749) and Band (600-052-1) supplied with R option (Omit for none)*
- **Connector Designator**: *A, F, and H*
- **Optional Braid Material**: *Omit for Standard (See Table IV)*
- **Custom Braid Length**: *Specify In Inches (Omit for Std. 12" Length)*



319-064
Composite Swing-Arm Backshell
with Shield Sock and
Self-Locking Rotatable Coupling

Glenair®

TABLE II: SHELL SIZE

Shell Size		E ± .031	F Min.	G Max.	H Max.	J ± .06	K Min. (H Code)	K Min. (A Code)	K Min. (F Code)
A, F	H								
08	09	.265 (6.7)	.22 (5.6)	1.06 (26.9)	.98 (24.9)	.94 (23.9)	.264 (6.7)	.265 (6.7)	.275 (7.0)
10	11	.310 (7.9)	.27 (6.9)	1.09 (27.7)	1.05 (26.7)	.97 (24.6)	.390 (9.9)	.370 (9.4)	.412 (10.5)
12	13	.390 (9.9)	.35 (8.9)	1.18 (30.0)	1.20 (30.5)	1.03 (26.2)	.504 (12.8)	.506 (12.9)	.526 (13.4)
14	15	.506 (12.9)	.47 (11.9)	1.24 (31.5)	1.30 (33.0)	1.09 (27.7)	.630 (16.0)	.580 (14.7)	.657 (16.7)
16	17	.591 (15.0)	.55 (14.0)	1.32 (33.5)	1.44 (36.6)	1.12 (28.4)	.756 (19.2)	.705 (17.9)	.776 (19.7)
18	19	.661 (16.8)	.62 (15.7)	1.39 (35.3)	1.56 (39.6)	1.15 (29.2)	.843 (21.4)	.784 (19.9)	.872 (22.1)
20	21	.744 (18.9)	.70 (17.8)	1.49 (37.8)	1.69 (42.9)	1.18 (30.0)	.969 (24.6)	.909 (23.1)	1.007 (25.6)
22	23	.826 (21.0)	.78 (19.8)	1.55 (39.4)	1.77 (45.0)	1.25 (31.8)	1.091 (27.7)	1.034 (26.3)	1.132 (28.8)
24	25	.896 (22.8)	.85 (21.6)	1.61 (40.9)	1.89 (48.0)	1.28 (32.5)	1.217 (30.9)	1.149 (29.2)	1.257 (31.9)

TABLE III: FINISH

Symbol	Finish
XB	Composite Material–No Plating, Color Black, Brass Interface Shroud and Adapter–Nickel Plated
XMT	2000 Hour Corrosion Resistant Ni-PTFE, Nickel-Fluorocarbon Polymer. *1000 Hour Grey™*
XN	Composite Material–No Plating, Color Black and Brown, Brass Interface Shroud and Adapter–Selectively Cadmium Plated (See Detail B)
XO	Composite Material–No Plating, Color Black and Brown, Brass Interface Shroud and Adapter–Nickel Plated

TABLE IV: BRAID TYPE

Symbol	Braid Type
A	100% AmberStrand®
B	75%/25% AmberStrand® Blend
L	100% ArmorLite™
Standard	Nickel/Copper 34awg
T	Tin/Copper 34awg

NOTES

1. See Table I in Intro for front-end dimensional details.
2. See composite thermoplastic shield sock assembly procedure for detailed installation instructions.
3. Add mod code -475 to end of part number for use with Series II connectors. Backshell to be supplied less shroud.
4. Coupling nut supplied unplated.

319-065
Self-Locking Rotatable Coupling
Composite Swing-Arm Strain Relief with Composite EMI/RFI Shield Sock & Optional Split Ring

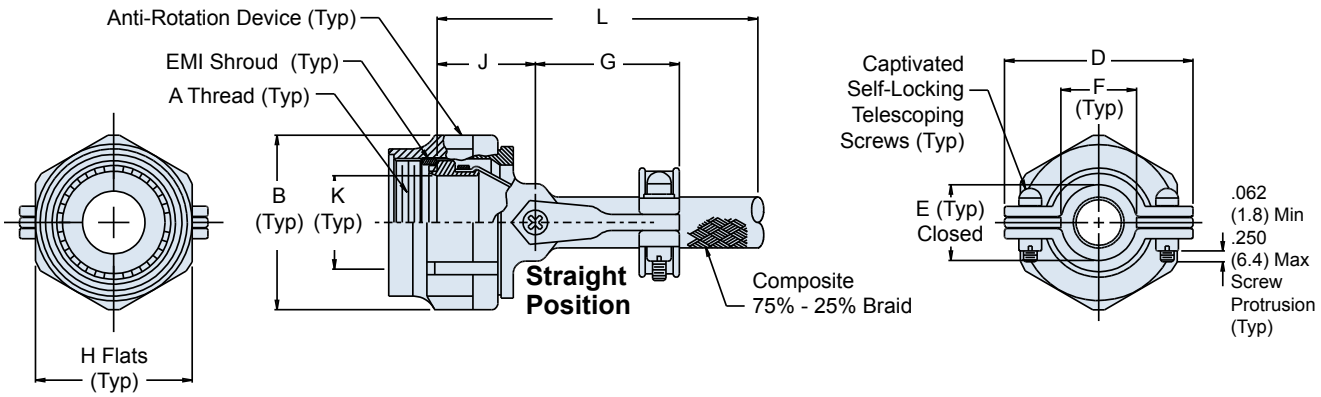
CONNECTOR DESIGNATOR:
A - MIL-DTL-5015 / -26482 / -83723 **F** - MIL-DTL-38999 Series I, II **H** - MIL-DTL-38999 Series III and IV
SELF-LOCKING
ROTATABLE COUPLING

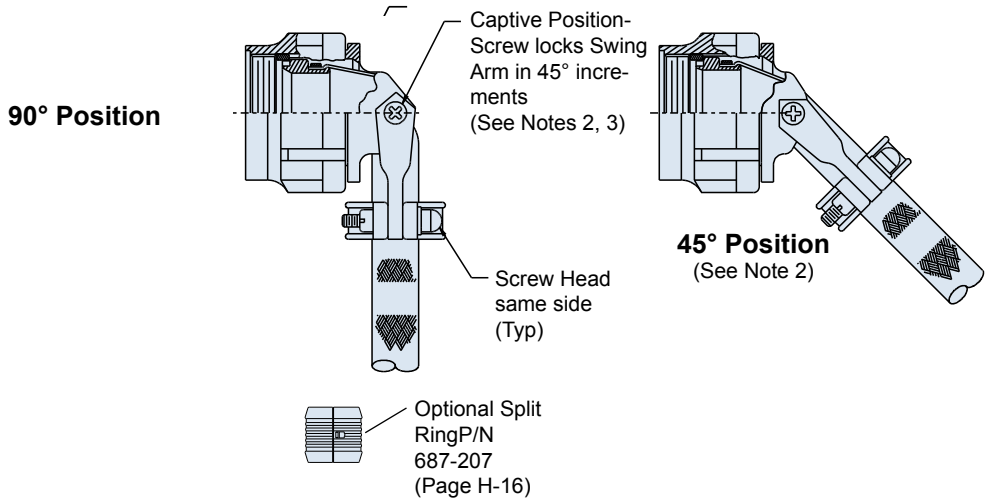
Product Series	Connector Designator (A, F and H)	Basic Number	Shell Size (See Table I)		
319	A	065	XO	16	R

Finish Symbol *(See Table III)*

Termination
R - Split Ring (687-207) and Band (600-052) Supplied
(Omit if Not Required)

U.S. PATENT NO. 6419519





H

319-065
Self-Locking Rotatable Coupling
Composite Swing-Arm Strain Relief with Composite EMI/RFI Shield Sock & Optional Split Ring

See Page H-2 for Table I: Backshell Interface Dimensions

TABLE I: CONNECTOR SHELL SIZE ORDER NUMBER

Shell Size for Connector Designator*			B Dia		D		E		F		G		H Flats				J		K		L	
A	F	H	Max		Max		±.06	(1.5)	Min		Max		Max		Min		±.06	(1.5)	Ref		Min	
08	08	09	.812	(20.6)	.980	(24.9)	.265	(6.7)	.220	(5.9)	1.060	(26.9)	.750	(19.1)	.736	(18.7)	.940	(23.9)	.265	(6.7)	7.000	(177.8)
10	10	11	.938	(23.8)	1.050	(26.7)	.310	(7.9)	.270	(6.9)	1.090	(27.7)	.875	(22.2)	.860	(21.8)	.970	(24.6)	.370	(9.4)	7.000	(177.8)
12	12	13	1.125	(28.6)	1.200	(30.5)	.390	(9.9)	.350	(8.9)	1.180	(30.0)	1.000	(25.4)	.980	(24.9)	1.030	(26.2)	.506	(12.9)	7.000	(177.8)
14	14	15	1.250	(31.8)	1.300	(33.0)	.506	(12.9)	.470	(11.9)	1.240	(31.5)	1.125	(28.6)	1.100	(27.9)	1.090	(27.7)	.580	(14.7)	9.000	(228.6)
16	16	17	1.375	(34.9)	1.440	(36.6)	.591	(15.0)	.550	(14.0)	1.320	(33.5)	1.250	(31.8)	1.224	(31.1)	1.120	(28.4)	.705	(17.9)	11.000	(279.4)
18	18	19	1.500	(38.1)	1.560	(39.6)	.661	(16.8)	.620	(15.7)	1.390	(35.3)	1.375	(34.9)	1.469	(37.3)	1.150	(29.2)	.784	(19.9)	11.000	(279.4)
20	20	21	1.625	(41.3)	1.690	(42.9)	.744	(18.9)	.700	(17.8)	1.550	(39.4)	1.500	(38.1)	1.500	(38.1)	1.180	(30.0)	.909	(23.1)	11.000	(279.4)
22	22	23	1.750	(44.5)	1.770	(45.0)	.826	(21.0)	.780	(19.8)	1.550	(39.4)	1.625	(41.3)	1.581	(40.2)	1.250	(31.8)	1.034	(26.3)	11.000	(279.4)
24	24	25	1.875	(47.6)	1.890	(48.0)	.896	(22.8)	.850	(21.6)	1.610	(40.9)	1.750	(44.5)	1.960	(49.8)	1.280	(32.5)	1.149	(29.2)	11.000	(279.4)

**Consult factory for additional entry sizes available.

TABLE II: FINISHES

Symbol	Finish
XB	Composite Material, No Plating, Color Black, Brass Interface Shroud and Adapter - Nickel Plated
XMT*	Ni-PTFE *1000 Hour Grey™* (Nickel-Fluorocarbon Polymer
XN	Composite Material, No Plating, Color Black and Brown, Brass Interface Shroud and Adapter - Selectively Cadmium Plated
XO	Composite Material, No Plating, Color Black and Brown, Brass Interface Shroud and Adapter - Nickel Plated
XW*	Cadmium Olive Drab over Electroless Nickel

* Note: Coupling Nut, Saddle Bars and Arms supplied unplated.

APPLICATION NOTES

1. Glenair series 600 Backshell assembly Tools are recommended for assembly and installation.
2. Swing Arm locks in 45° increments–Sizes 08 thru 24, additional positioning increments are manufacturer's option.
3. Captive Screw remains engaged to the body when positioning the Arm. When tightened, the Screw shall not protrude into the inside surfaces.
4. Fits Connector Designators: MIL-DTL-38999 Series I, II (F), MIL-DTL-38999 Series III and IV (H), MIL-DTL-5015 (A), and MIL-DTL-26482 (A)

Metric dimensions (mm) are in parentheses and are for reference only.

CAGE Codes 06324 Printed in U.S.A.

319-138
"Wide Mouth" Composite Swing-Arm Strain Relief
with Shield Sock and Self-Locking Rotatable Coupling

CONNECTOR DESIGNATOR:	
A	MIL-DTL-5015, -26482 Series II, and -83723 Series I and III
F	MIL-DTL-38999 Series I, II *(see note 3)*
H	MIL-DTL-38999 Series III and IV
SELF-LOCKING	
ROTATABLE COUPLING	
LOW PROFILE	

Product Series
319 - EMI/RFI Shield Sock Assemblies

Finish Symbol
(See Table III)

Custom Braid Length
Specify In Inches
(Omit for Std. 12" Length)

Connector Designator
A, F, and H

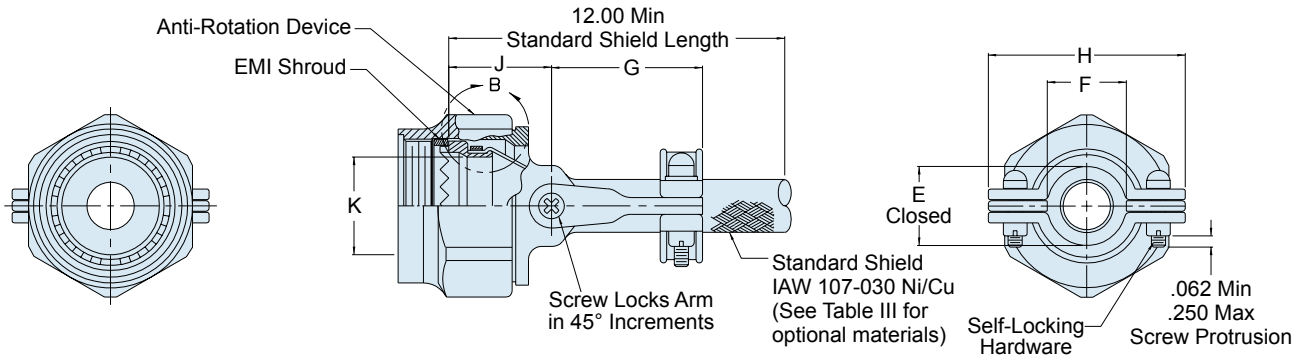
Optional Braid Material
B - See Table IV for Options
(Omit for Std. Nickel/Copper)

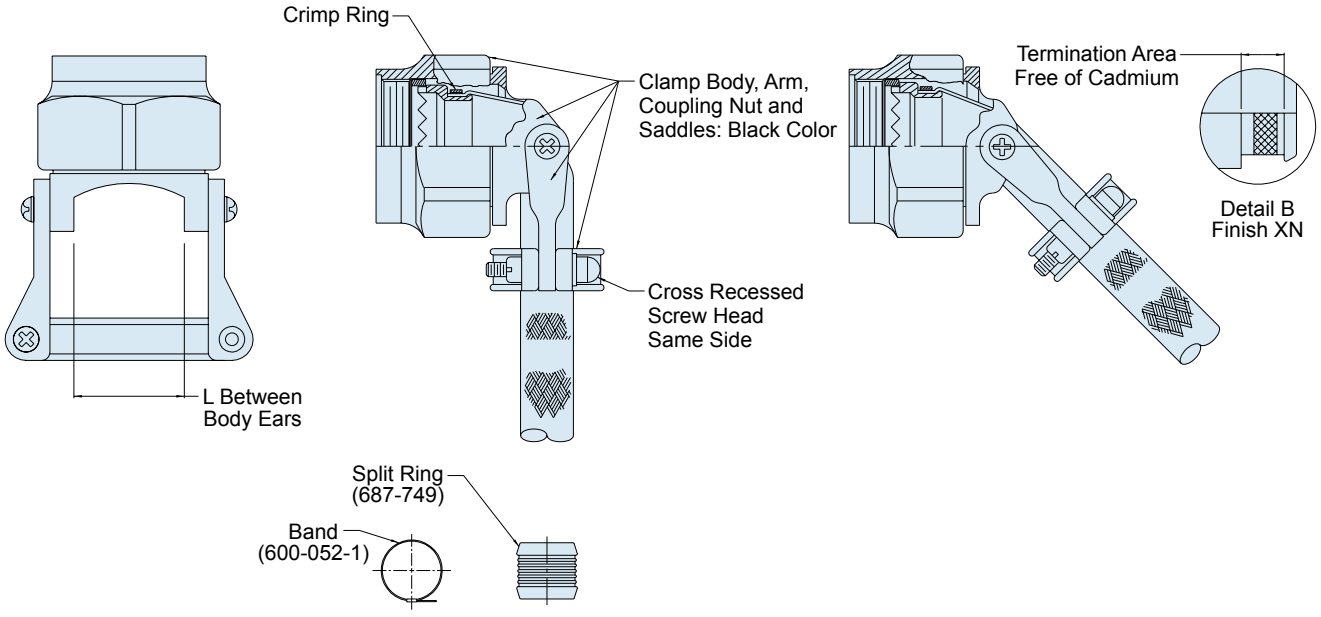
319	H	138	XO	15	B	R	8

Basic Part Number

Connector Shell Size
(See Table II)

Split Ring / Band Option
Split Ring (687-749) and Band (600-052-1) supplied with R option
(Omit for none)





319-138
"Wide Mouth" Composite Swing-Arm Strain Relief
with Shield Sock and Self-Locking Rotatable Coupling

Glenair®

TABLE II: SHELL SIZE

Shell Size		E ± .031	F Min	G Max ± .06	H ± .060	J Max	L Max	K Diameter		
A, F	H							A Code	F Code	H Code
08	09	.350 (8.9)	.350 (8.9)	1.045 (26.5)	.936 (23.8)	.94 (23.9)	.393 (10.0)	.265 (6.7)	.275 (7.0)	.264 (6.7)
10	11	.436 (11.1)	.455 (11.6)	1.045 (26.5)	1.172 (29.8)	.97 (24.6)	.455 (11.6)	.370 (9.4)	.412 (10.5)	.390 (9.9)
12	13	.636 (16.2)	.640 (16.3)	1.170 (29.7)	1.406 (35.7)	1.03 (26.2)	.598 (15.2)	.506 (12.9)	.526 (13.4)	.504 (12.8)
14	15	.706 (17.9)	.710 (18.0)	1.170 (29.7)	1.500 (38.1)	1.09 (27.7)	.710 (18.0)	.580 (14.7)	.651 (16.5)	.630 (16.0)
16	17	.790 (20.1)	.835 (21.2)	1.295 (32.9)	1.562 (39.7)	1.12 (28.4)	.839 (21.3)	.705 (17.9)	.776 (19.7)	.756 (19.2)
18	19	.872 (22.1)	.922 (23.4)	1.295 (32.9)	1.687 (42.8)	1.15 (29.2)	.934 (23.7)	.784 (19.9)	.872 (22.1)	.843 (21.4)
20	21	.996 (25.3)	1.008 (25.6)	1.467 (39.5)	1.969 (50.0)	1.18 (30.0)	1.068 (27.1)	.909 (23.1)	1.007 (25.6)	.969 (24.6)
22	23	1.060 (26.9)	1.197 (30.4)	1.467 (39.5)	2.094 (53.2)	1.25 (31.8)	1.197 (30.4)	1.034 (1.034)	1.132 (28.8)	1.091 (27.7)
24	25	1.123 (28.5)	1.323 (33.6)	1.461 (37.1)	2.281 (57.9)	1.28 (32.5)	1.323 (33.6)	1.149 (29.2)	1.257 (31.9)	1.217 (30.9)

TABLE III: FINISH

Symbol	Finish
XB	Composite Material–No Plating, Color Black, Brass Interface Shroud and Adapter–Nickel Plated
XMT	2000 Hour Corrosion Resistant Ni-PTFE, Nickel-Fluorocarbon Polymer. *1000 Hour Grey™*
XN	Composite Material–No Plating, Color Black and Brown, Brass Interface Shroud and Adapter–Selectively Cadmium Plated (See Detail B)

TABLE IV: BRAID TYPE

Symbol	Braid Type
A	100% AmberStrand®
B	75%/25% AmberStrand® Blend
L	100% ArmorLite™
Standard	Nickel/Copper 34awg
T	Tin/Copper 34awg

NOTES

1. See Table I in Intro for front-end dimensional details.
2. See composite thermoplastic shield sock assembly procedure for detailed installation instructions.
3. Add mod code -475 to end of part number for use with Series II connectors. Backshell to be supplied less shroud.
4. Coupling nut supplied unplated.

Composite Thermoplastic User Adjustable Swing-Arm Assembly
Technical Information

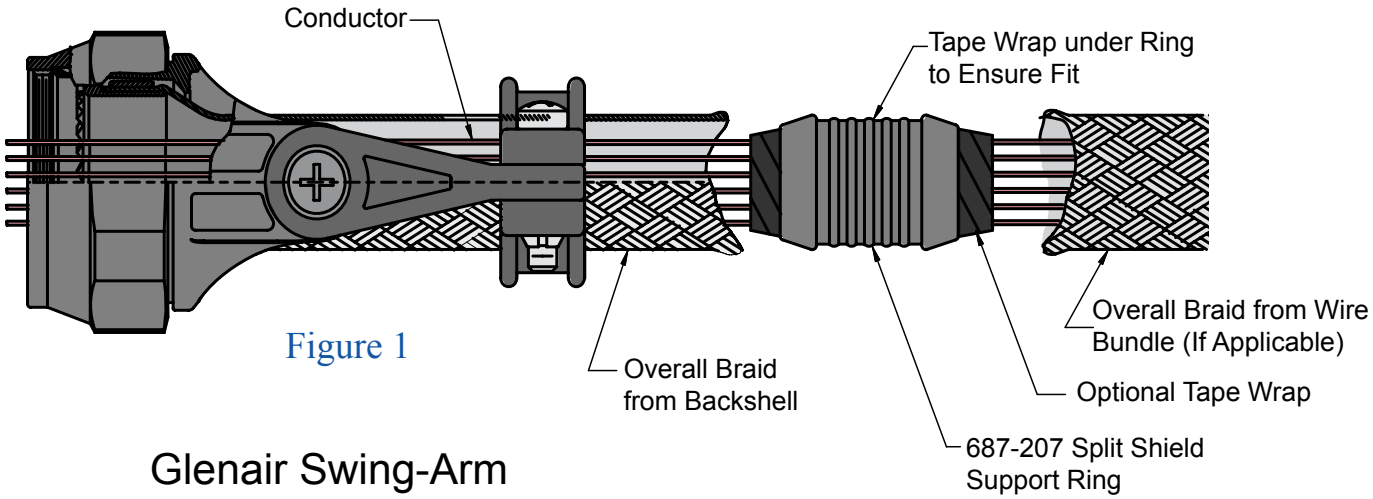


Figure 1

Glenair Swing-Arm Offers Extremely Fast and Trouble-Free Termination of EMI Shielding:

Choose Straight, 45° or 90° angle, and tighten screws to lock arms in place. Leave the saddle clamp hardware loose.

Next, insert the wire bundle into the backshell to determine if the braid transition angle from the backshell to wire bundle is less than 45º. If it is less than 45°, build up the wire bundle with tape and re-insert wire bundle into backshell to support the transition of overall braid from the backshell to the wire bundle.

Loosely assembly the adapter to the connector and push back the backshell braid. Insert the wire bundle into the adapter and bottom it against the connector. Holding the cable, mark or tag the location where the shield support ring (Glenair Part Number 687-207) will be located. This distance may vary depending on your technique and the flexibility of the wire bundle immediately to the rear of the saddles (Figure 1).

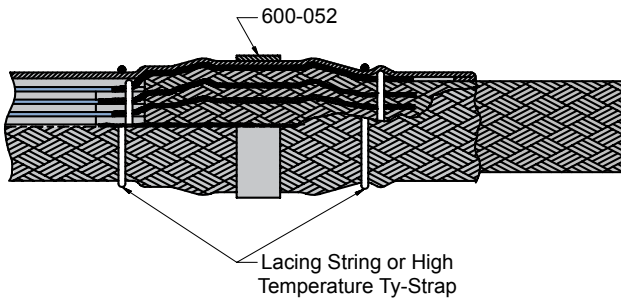


Figure 2

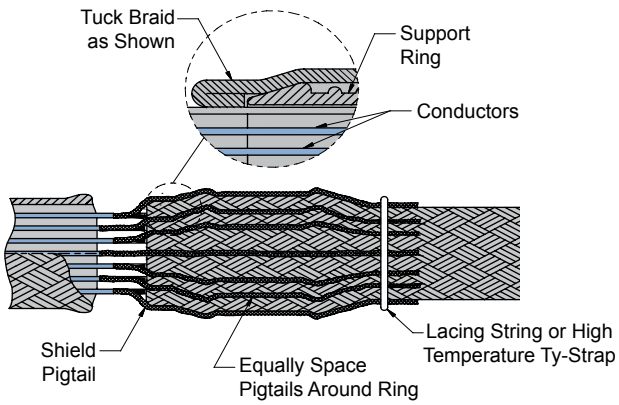
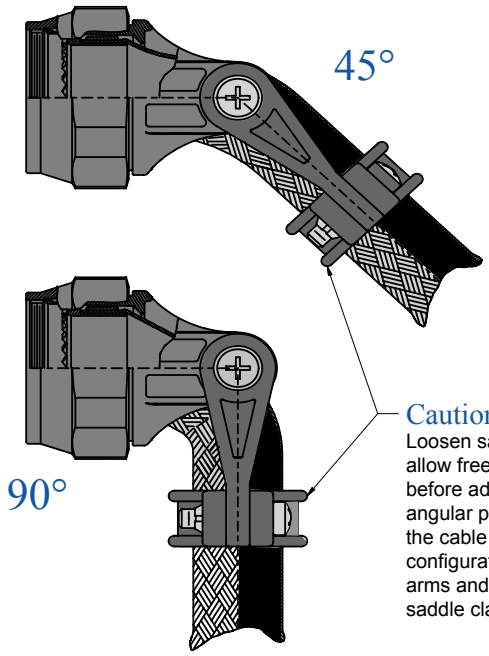


Figure 3



At the marked location, near the shield support ring, wrap tape around wire bundle for snug fit of shield support ring (Figure 1). Tape wrap is optional.

You can then slide the overall braid from the wire bundle side over the shield support ring, trimming braid ends and tucking extra braid underneath itself for a clean appearance.

For pin connectors, slide the backshell forward, and hand tighten backshell to connector. Then, evenly space shield pigtails (Figure 3) or solder sleeve pigtails (Figure 4) around the shield support ring. Cut the pigtails so that the end of the pigtails slightly beyond end of shield support ring.

Bring the shield sock from backshell and completely cover the pigtails and support ring. Trim and fold the braid as shown in Figure 2. Lace tie the shield adjacent to support ring ends.

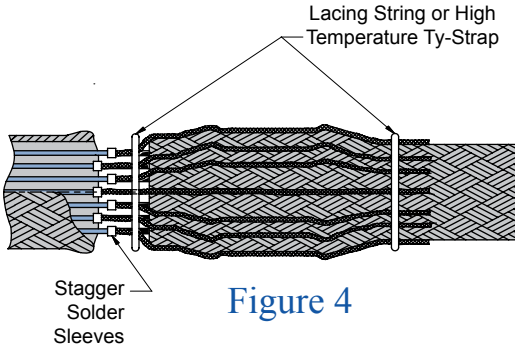


Figure 4

Install Glenair's *Band-it*® band (600-052) between the lace ties onto the center of the support ring as shown in Figure 2. The hand banding tool (600-058) or pneumatic banding tool (600-067) is used for this banding process.

Next, you can wrap the shield support ring assembly with high temperature tape. Place lacing cord, high temperature tape, or high temperature plastic Ty-Straps on the braid transition to the rear of the backshell to secure the overbraid on wire bundle. If you wish, you can cover the overbraid with 102-080 braid sock.

Tighten the adapter to the connector using Glenair 600-091 composite hex coupling torque wrench and related tooling accessories to established torque values. Secure the strain relief saddle onto the wire bundle using TG69 soft jaw pliers. Torque the saddle screws to established values. You can use Teflon tape wrap or M85049/127 bushing strip as needed to cushion the braid sock under the saddle clamps.

With these few steps, your Swing-Arm strain relief installation is complete!

380-107
EMI/RFI Non-Environmental Backshell with Strain Relief
Type D - Self-Locking - Rotatable Coupling - Split Shell

CONNECTOR DESIGNATOR:

A - MIL-DTL-5015 / -26482 / -83723
F - MIL-DTL-38999 Series I, II
H - MIL-DTL-38999 Series III and IV

SELF-LOCKING

ROTATABLE COUPLING

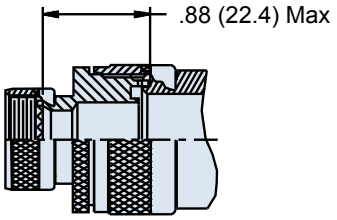
SPLIT SHELL

ULTRA-LOW PROFILE

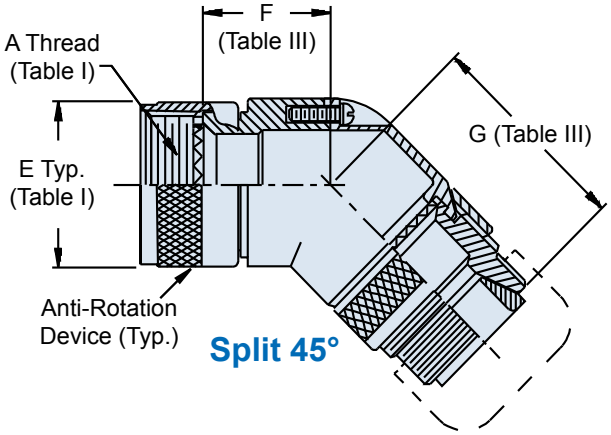
TYPE D INDIVIDUAL OR OVERALL SHIELD TERMINATION

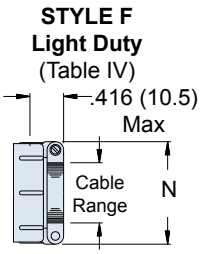
Product Series	Angle and Profile		Finish	Cable Entry			
380	- F	D	- 107	M	16	05	F
	Connector Designator		Basic Number		Shell Size (See Table I)		Strain Relief Style F or G

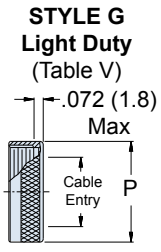
Angle and Profile: C - Ultra Low Splirt 90°; D - Split 90°; F - Split 45°

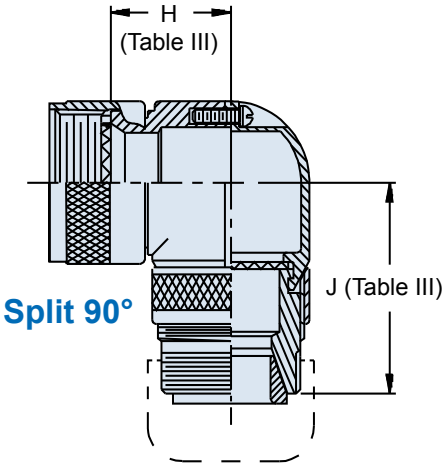


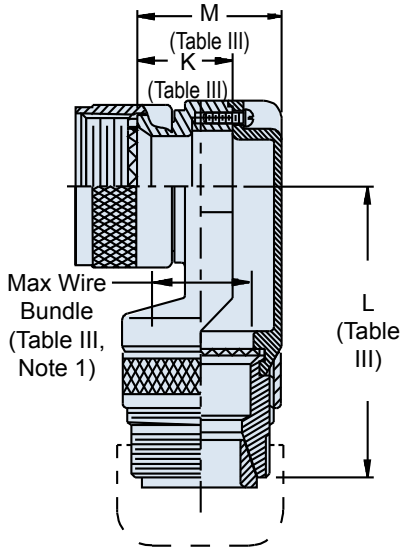
STYLE 2
(See Note 1)











H

380-107
EMI/RFI Non-Environmental Backshell with Strain Relief
Type D - Self-Locking - Rotatable Coupling - Split Shell

See Page H-2 for Table I: Backshell Interface Dimensions

TABLE II: FINISHES

Symbol	Finish
B	Cadmium Plate, Olive Drab
M	Electroless Nickel
NF	Cadmium Plate, Olive Drab over Electroless Nickel
MT	Nickel Flourocarbon polymer (Ni-PTFE)

TABLE III: DIMENSIONS

Shell Size	F Max	G Max	H Max	J Max	K Max	L Max	M Max	Function C Max Wire Bundle
08/09	.596 (15.1)	1.730 (43.9)	.836 (21.2)	1.670 (42.4)	.496 (12.6)	1.920 (48.8)	.837 (21.3)	.250 (6.4)
10/11	.656 (16.7)	1.785 (45.3)	.906 (23.0)	1.725 (43.8)	.426 (10.8)	2.080 (52.8)	.887 (22.5)	.375 (9.5)
12/13	.716 (18.2)	1.855 (47.1)	.966 (24.5)	1.795 (45.6)	.426 (10.8)	2.080 (52.8)	.887 (22.5)	.375 (9.5)
14/15	.776 (19.7)	1.887 (47.9)	1.026 (26.1)	1.827 (46.4)	.436 (11.1)	2.150 (54.6)	.987 (25.1)	.500 (12.7)
16/17	.836 (21.2)	1.987 (50.5)	1.086 (27.6)	1.927 (48.9)	.576 (14.6)	2.200 (55.9)	1.137 (28.9)	.625 (15.9)
18/19	.906 (23.0)	2.045 (51.9)	1.156 (29.4)	1.985 (50.4)	.796 (20.2)	2.230 (56.6)	1.337 (34.0)	.625 (15.9)
20/21	.976 (24.8)	2.106 (53.5)	1.216 (30.9)	2.046 (52.0)	.796 (20.2)	2.230 (56.6)	1.337 (34.0)	.625 (15.9)
22/23	1.036 (26.3)	2.167 (55.0)	1.276 (32.4)	2.107 (53.5)	.696 (17.7)	2.380 (60.5)	1.337 (34.0)	.750 (19.1)
24/25	1.096 (27.8)	2.225 (56.5)	1.336 (33.9)	2.165 (55.0)	.696 (17.7)	2.380 (60.5)	1.337 (34.0)	.750 (19.1)

TABLE IV: CABLE ENTRY

Dash No.	N Max	Cable Range Min	Cable Range Max
02	.968 (24.6)	.125 (3.2)	.250 (6.4)
03	1.046 (26.6)	.250 (6.4)	.375 (9.5)
04	1.156 (29.4)	.312 (7.9)	.500 (12.7)
05	1.218 (30.9)	.437 (11.1)	.625 (15.9)
06	1.343 (34.1)	.562 (14.3)	.750 (19.1)
07	1.468 (37.3)	.687 (17.4)	.875 (22.2)
08	1.593 (40.5)	.812 (20.6)	1.000 (25.4)
10	1.843 (46.8)	1.062 (27.0)	1.250 (31.8)

TABLE V: CABLE ENTRY

Dash No.	P Max	Cable Entry Max
01	.656 (16.7)	.125 (3.2)
02	.781 (19.8)	.250 (6.4)
03	.906 (23.0)	.375 (9.5)
04	1.031 (26.2)	.500 (12.7)
05	1.156 (29.4)	.625 (15.9)
06	1.281 (32.5)	.750 (19.1)
07	1.406 (35.7)	.875 (22.2)
08	1.531 (38.9)	1.000 (25.4)
09	1.656 (42.1)	1.125 (28.6)
10	1.781 (45.2)	1.250 (31.8)

APPLICATION NOTES

1. When maximum cable entry is exceeded (not available in Function C), Style 2 will be supplied. Dimensions F, G, H and J will not apply. Please consult factory.
2. Metric dimensions (mm) are indicated in parentheses.
3. Cable range is defined as the accommodations range for the wire bundle or cable. Dimensions shown are not intended for inspection criteria.
4. Angular function "C", low-profile split elbow, not available with "S" connector designator.

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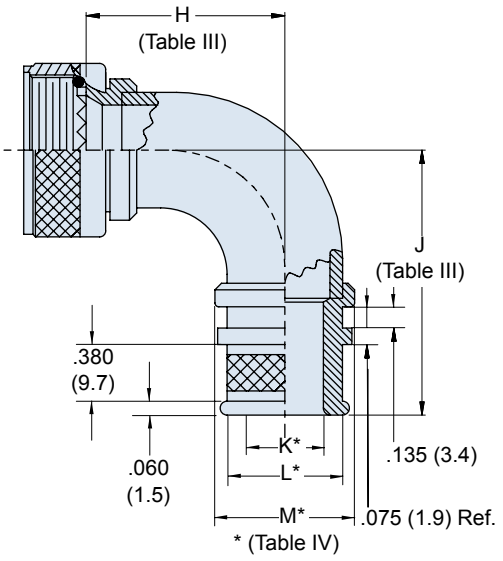
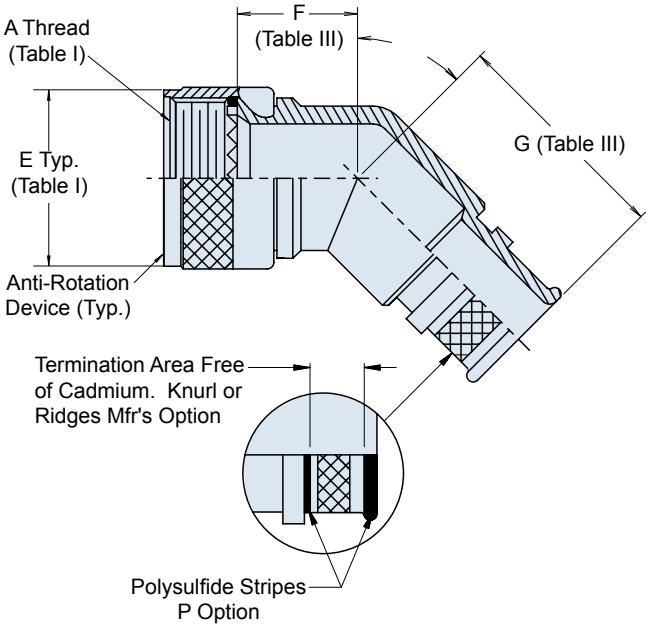
440-069
EMI/RFI Banding and Shrink Boot Adapter
Self-Locking Rotatable Coupling - Full Radius Profile

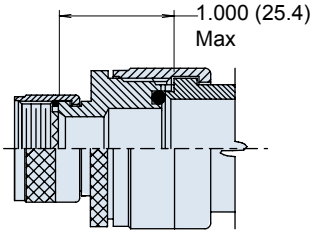
Product Series	Connector Designator		Basic Number		Shell Size (See Table I)		Cable Termination		Shrink Boot
440	- F	N	- 069	M	20	12	B	P	T

- **Product Series:** 440
- **Connector Designator:** F
- **Angle and Profile:** N
  - *M - 45°*
  - *N - 90°*
- **Basic Number:** - 069
- **Finish** *(See Table II)*: M
- **Shell Size** *(See Table I)*: 20
- **Cable Entry** *(See Table IV)*: 12
- **Cable Termination**
  - *B - Band*
  - *K - Precoiled Band*
  - *(Omit for None)*: B
- **Polysulfide**
  - *P - Polysulfide*
  - *(Omit for None)*: P
- **Shrink Boot**
  - *(See Table IV)*
  - *Omit for None*: T

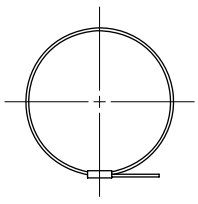
CONNECTOR DESIGNATOR:
A - MIL-DTL-5015 / -26482 / -83723 **F** - MIL-DTL-38999 Series I, II **H** - MIL-DTL-38999 Series III and IV
SELF-LOCKING
ROTATABLE COUPLING
FULL RADIUS PROFILE







STYLE 2
(See Note 1)



Band Option
(K Option Shown -See Note 6)

H

440-069
EMI/RFI Banding and Shrink Boot Adapter
Self-Locking Rotatable Coupling - Full Radius Profile

See Page H-2 for Table I: Backshell Interface Dimensions

TABLE III: ELBOW DIMENSIONS

Shell Size Conn. Desig. A-F-L	H	F Max	G Max	H Max	J Max
08	09	.968 (24.6)	1.017 (25.8)	1.281 (32.5)	1.335 (33.9)
10	11	1.031 (26.2)	1.071 (27.2)	1.406 (35.7)	1.460 (37.1)
12	13	1.094 (27.8)	1.121 (28.5)	1.531 (38.9)	1.585 (40.3)
14	15	1.156 (29.4)	1.175 (29.8)	1.656 (42.1)	1.710 (43.4)
16	17	1.218 (30.9)	1.224 (31.1)	1.781 (45.2)	1.835 (46.6)
18	19	1.250 (31.8)	1.274 (32.4)	1.906 (48.4)	1.960 (49.8)
20	21	1.312 (33.3)	1.328 (33.7)	2.031 (51.6)	2.085 (53.0)
22	23	1.344 (34.1)	1.382 (35.1)	2.156 (54.8)	2.210 (56.1)
24	25	1.406 (35.7)	1.431 (36.3)	2.281 (57.9)	2.335 (59.3)

1. When maximum cable entry is exceeded, Style 2 will be supplied. Dimensions F, G, H and J will not apply. Please consult factory.
2. Metric dimensions (mm) are indicated in parentheses.
3. Interface O-Ring not supplied with Connector Designator A.
4. Consult factory for shorter lengths on straight backshells.
5. Backshells supplied with 600-052-* band, see Glenair Series 600 Tool Catalog for installation.

TABLE IV: CABLE ENTRY

Dash No.	K	L	M	Shrink Boot*
01	.125 (3.2)	.250 (6.4)	.312 (7.9)	770-003S111
31	.188 (4.8)	.312 (7.9)	.374 (9.5)	770-003S111
02	.250 (6.4)	.375 (9.5)	.437 (11.1)	770-003S112
32	.312 (7.9)	.438 (11.1)	.500 (12.7)	770-003S112
03	.375 (9.5)	.500 (12.7)	.562 (14.3)	770-003S112
33	.438 (11.1)	.562 (14.3)	.624 (15.8)	770-001S104
04	.500 (12.7)	.625 (15.9)	.687 (17.4)	770-001S104
34	.562 (14.3)	.688 (17.5)	.750 (19.1)	770-001S104
05	.625 (15.9)	.750 (19.1)	.812 (20.6)	770-001S104
35	.688 (17.5)	.812 (20.6)	.874 (22.2)	770-001S104
06	.750 (19.1)	.875 (22.2)	.937 (23.8)	770-001S105
36	.812 (20.6)	.938 (23.8)	1.000 (25.4)	770-001S105
07	.875 (22.2)	1.000 (25.4)	1.062 (27.0)	770-001S105
37	.938 (23.8)	1.062 (27.0)	1.124 (28.5)	770-001S105
08	1.000 (25.4)	1.125 (28.6)	1.187 (30.1)	770-001S106
38	1.062 (27.0)	1.188 (30.2)	1.250 (31.8)	770-001S106
09	1.125 (28.6)	1.250 (31.8)	1.312 (33.3)	770-001S107
10	1.250 (31.8)	1.375 (34.9)	1.437 (36.5)	770-001S107
11	1.375 (34.9)	1.500 (38.1)	1.562 (39.7)	770-001S107
12	1.500 (38.1)	1.625 (41.3)	1.687 (42.8)	770-001S107
13	1.625 (41.3)	1.750 (44.5)	1.812 (46.0)	770-001S108
14	1.750 (44.5)	1.875 (47.6)	1.937 (49.2)	770-001S108
15	1.875 (47.6)	2.000 (50.8)	2.062 (52.4)	770-001S109
16	2.000 (50.8)	2.125 (54.0)	2.187 (55.5)	770-001S109

* Shrink Boot Supplied with "T" Option
(see Part Number Development)

TABLE II: FINISHES

Glenair Symbol	Finish
B	Cadmium Plate, Olive Drab
M	Electroless Nickel
NF	Cadmium Plate, Olive Drab over Electroless Nickel
MT	Ni-PTFE *1000 Hour Grey™* Nickel Fluorocarbon Polymer

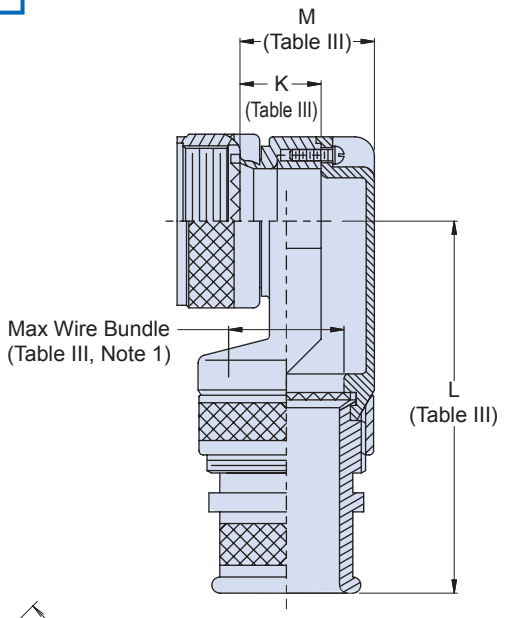
Consult Factory for Additional Finish Options

440-069
EMI/RFI Banding and Shrink Boot Adapter
Self-Locking Rotatable Coupling - Split Shell

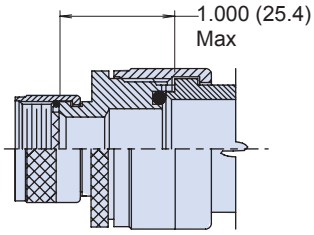
Product Series	Connector Designator		Basic Number	Shell Size (See Table I)		Cable Termination (B - Band, K - Precoiled Band, Omit for None)		Shrink Boot (See Table IV) Omit for None
440	F	D	069	M	20	12	B	P	T

- **Angle and Profile:** C - Ultra Low Split 90°, D - Split 90°, F - Split 45°
- **Finish:** (See Table II)
- **Cable Entry:** (See Table IV)
- **Polysulfide:** P - Polysulfide (Omit for None)

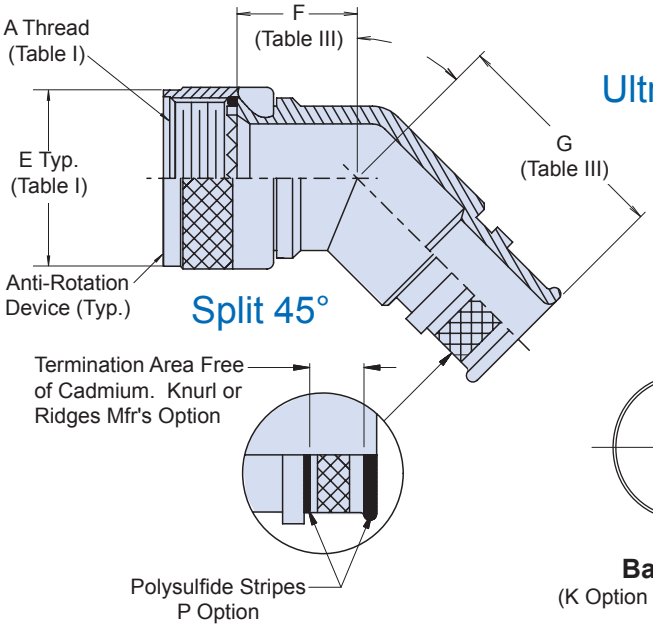
CONNECTOR DESIGNATOR:
A - MIL-DTL-5015 / -26482 / -83723 F - MIL-DTL-38999 Series I, II H - MIL-DTL-38999 Series III and IV
SELF-LOCKING
ROTATABLE COUPLING
SPLIT SHELL
ULTRA-LOW PROFILE

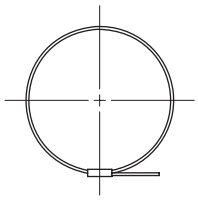


Ultra Low-Profile
Split 90°

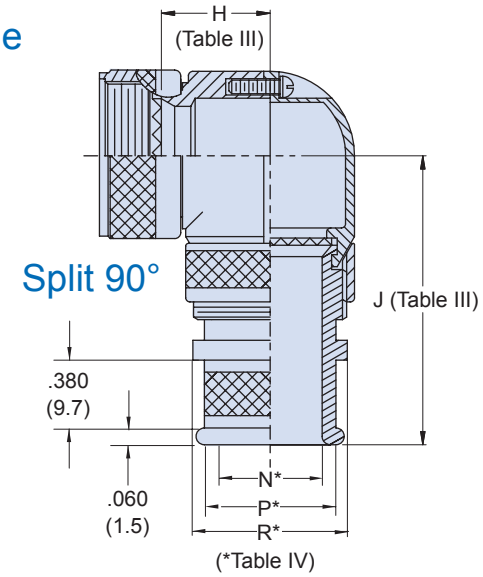


STYLE 2
(See Note 1)





Band Option
(K Option Shown -See Note 5)



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E-Mail: sales@glenair.com

440-069
EMI/RFI Banding and Shrink Boot Adapter
Self-Locking Rotatable Coupling - Split Shell

See Page H-2 for Table I: Backshell Interface Dimensions

TABLE III: ELBOW DIMENSIONS

Shell Size	F Max	G Max	H Max	J Max	K Max	L Max	M Max	Function C Max Wire Bundle
08/09	.596 (15.1)	1.635 (41.5)	.836 (21.2)	1.575 (40.0)	.496 (12.6)	1.915 (48.6)	.837 (21.3)	.250 (6.4)
10/11	.656 (16.7)	1.695 (43.1)	.906 (23.0)	1.635 (41.5)	.426 (10.8)	2.075 (52.7)	.887 (22.5)	.375 (9.5)
12/13	.716 (18.2)	1.765 (44.8)	.966 (24.5)	1.705 (43.3)	.426 (10.8)	2.075 (52.7)	.887 (22.5)	.375 (9.5)
14/15	.776 (19.7)	1.795 (45.6)	1.026 (26.1)	1.735 (44.1)	.436 (11.1)	2.145 (54.5)	.987 (25.1)	.500 (12.7)
16/17	.836 (21.2)	1.895 (48.1)	1.086 (27.6)	1.835 (46.6)	.576 (14.6)	2.195 (55.8)	1.137 (28.9)	.625 (15.9)
18/19	.906 (23.0)	1.955 (49.7)	1.156 (29.4)	1.895 (48.1)	.796 (20.2)	2.225 (56.5)	1.337 (34.0)	.625 (15.9)
20/21	.976 (24.8)	2.015 (51.2)	1.216 (30.9)	1.955 (49.7)	.796 (20.2)	2.225 (56.5)	1.337 (34.0)	.625 (15.9)
22/23	1.036 (26.3)	2.075 (52.7)	1.276 (32.4)	2.015 (51.2)	.696 (17.7)	2.375 (60.3)	1.337 (34.0)	.750 (19.1)
24/25	1.096 (27.8)	2.135 (54.2)	1.336 (33.9)	2.075 (52.7)	.696 (17.7)	2.375 (60.3)	1.337 (34.0)	.750 (19.1)

TABLE IV: CABLE ENTRY

Dash No.	N	P	R	Shrink Boot*
01	.125 (3.2)	.250 (6.4)	.312 (7.9)	770-003S111
31	.188 (4.8)	.312 (7.9)	.374 (9.5)	770-003S111
02	.250 (6.4)	.375 (9.5)	.437 (11.1)	770-003S112
32	.312 (7.9)	.438 (11.1)	.500 (12.7)	770-003S112
03	.375 (9.5)	.500 (12.7)	.562 (14.3)	770-003S112
33	.438 (11.1)	.562 (14.3)	.624 (15.8)	770-001S104
04	.500 (12.7)	.625 (15.9)	.687 (17.4)	770-001S104
34	.562 (14.3)	.688 (17.5)	.750 (19.1)	770-001S104
05	.625 (15.9)	.750 (19.1)	.812 (20.6)	770-001S104
35	.688 (17.5)	.812 (20.6)	.874 (22.2)	770-001S104
06	.750 (19.1)	.875 (22.2)	.937 (23.8)	770-001S105
36	.812 (20.6)	.938 (23.8)	1.000 (25.4)	770-001S105
07	.875 (22.2)	1.000 (25.4)	1.062 (27.0)	770-001S105
37	.938 (23.8)	1.062 (27.0)	1.124 (28.5)	770-001S105
08	1.000 (25.4)	1.125 (28.6)	1.187 (30.1)	770-001S106
38	1.062 (27.0)	1.188 (30.2)	1.250 (31.8)	770-001S106
09	1.125 (28.6)	1.250 (31.8)	1.312 (33.3)	770-001S107
10	1.250 (31.8)	1.375 (34.9)	1.437 (36.5)	770-001S107
11	1.375 (34.9)	1.500 (38.1)	1.562 (39.7)	770-001S107
12	1.500 (38.1)	1.625 (41.3)	1.687 (42.8)	770-001S107
13	1.625 (41.3)	1.750 (44.5)	1.812 (46.0)	770-001S108
14	1.750 (44.5)	1.875 (47.6)	1.937 (49.2)	770-001S108
15	1.875 (47.6)	2.000 (50.8)	2.062 (52.4)	770-001S109
16	2.000 (50.8)	2.125 (54.0)	2.187 (55.5)	770-001S109

* Shrink Boot Supplied with “T” Option
(see Part Number Development)

1. When maximum cable entry is exceeded, Style 2 will be supplied (not available in Function C). Dimensions F, G, H and J will not apply. Please consult factory.
2. Metric dimensions (mm) are indicated in parentheses.
3. Consult factory for shorter lengths on straight backshells.
4. Backshells supplied with 600-052-* band, see Glenair Series 600 Tool Catalog for installation.
5. Angular function “C”, low-profile split elbow, not available with “S” connector designator.

TABLE II: FINISHES

Glenair Symbol	Finish
B	Cadmium Plate, Olive Drab
M	Electroless Nickel
NF	Cadmium Plate, Olive Drab over Electroless Nickel
MT	Ni-PTFE *1000 Hour Grey™* Nickel Fluorocarbon Polymer

Consult Factory for Additional Finish Options

H

CAGE Codes 06324
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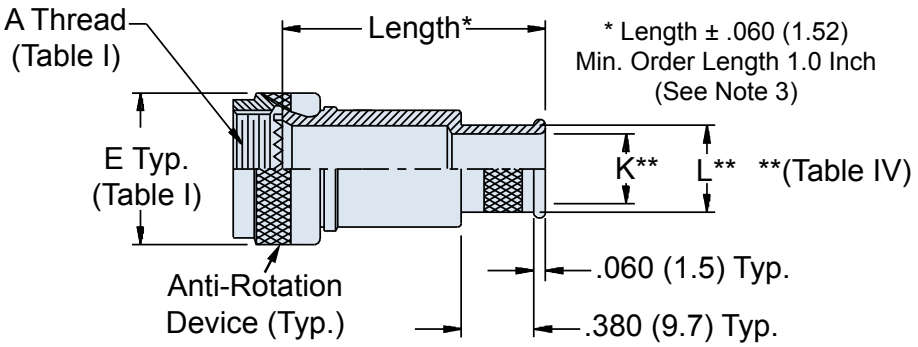
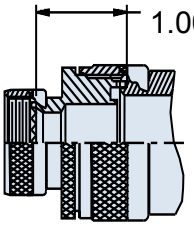
440-075
EMI/RFI Banding Adapter
Self-Locking Rotatable Coupling - Standard Profile

Product Series	Connector Designator		Basic Number		Shell Size		Length (S Only)		Polysulfide
		Angle and Profile		Finish		Cable Entry		Cable Termination	
440	F	S	075	NF	16	12	8	K	P

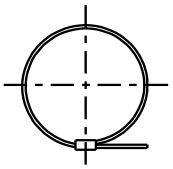
- Product Series: 440
- Connector Designator: F
- Angle and Profile: *H* - 45°, *J* - 90°, *S* - Straight
- Basic Number: 075
- Finish: *(See Table II)*
- Shell Size: *(See Table I)*
- Cable Entry: *(See Table IV)*
- Length (S Only): *(1/2 inch increments e.g. 8 = 4.000 Inches)*
- Cable Termination: *B* - Band, *K* - Precoiled Band, *(Omit for None)*
- Polysulfide: *P* - Polysulfide *(Omit for None)*

CONNECTOR DESIGNATOR:
A - MIL-DTL-5015 / -26482 / -83723 **F** - MIL-DTL-38999 Series I, II **H** - MIL-DTL-38999 Series III and IV
SELF-LOCKING
ROTATABLE COUPLING
STANDARD PROFILE

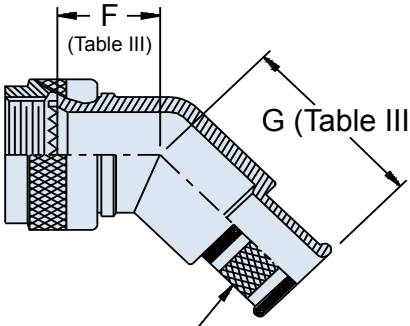


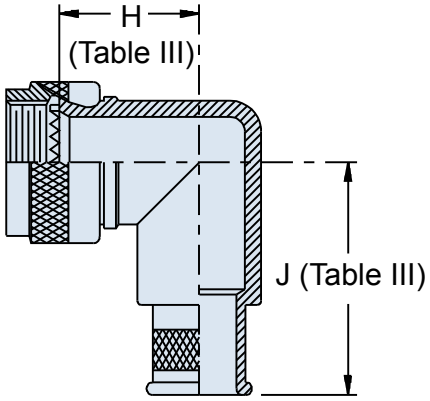


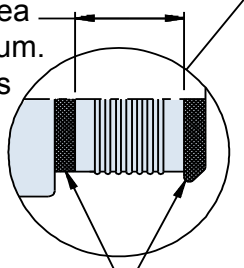
STYLE 2
(45° & 90°
See Note 1)

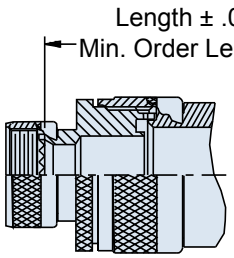


Band Option
(K Option Shown
- See Note 4)









STYLE 2
(STRAIGHT
See Note 1)

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See Page H-2 for Table I: Backshell Interface Dimensions

TABLE III: ELBOW DIMENSIONS

Shell Size Conn. Desig. A-F-L-S	H	F Max	G Max	H Max	J Max
08	09	.795 (20.2)	.890 (22.6)	.906 (23.0)	1.000 (25.4)
10	11	.820 (20.8)	.920 (23.4)	.966 (24.5)	1.060 (26.9)
12	13	.844 (21.4)	.940 (23.9)	1.026 (26.1)	1.120 (28.4)
14	15	.861 (21.9)	.970 (24.6)	1.076 (27.3)	1.190 (30.2)
16	17	.888 (22.6)	.990 (25.1)	1.136 (28.9)	1.250 (31.8)
18	19	.904 (23.0)	1.000 (25.4)	1.176 (29.9)	1.270 (32.3)
20	21	.929 (23.6)	1.020 (25.9)	1.236 (31.4)	1.330 (33.8)
22	23	.956 (24.3)	1.060 (26.9)	1.296 (32.9)	1.410 (35.8)
24	25	.979 (24.9)	1.090 (27.7)	1.356 (34.4)	1.480 (37.6)

TABLE IV: CABLE ENTRY

Dash No.	K Dia	L Dia
02	.125 (3.2)	.250 (6.4)
03	.188 (4.8)	.312 (7.9)
04	.250 (6.4)	.375 (9.5)
05	.312 (7.9)	.438 (11.1)
06	.375 (9.5)	.500 (12.7)
07	.438 (11.1)	.562 (14.3)
08	.500 (12.7)	.625 (15.9)
09	.562 (14.3)	.688 (17.5)
10	.625 (15.9)	.750 (19.1)
11	.688 (17.5)	.812 (20.6)
12	.750 (19.1)	.875 (22.2)
13	.812 (20.6)	.938 (23.8)
14	.875 (22.2)	1.000 (25.4)
15	.938 (23.8)	1.062 (27.0)
16	1.000 (25.4)	1.125 (28.6)
17	1.062 (27.0)	1.188 (30.2)
18	1.125 (28.6)	1.250 (31.8)
20	1.250 (31.8)	1.375 (34.9)
22	1.375 (34.9)	1.500 (38.1)
24	1.500 (38.1)	1.625 (41.3)
26	1.625 (41.3)	1.750 (44.5)
28	1.750 (44.5)	1.875 (47.6)
30	1.875 (47.6)	2.000 (50.8)
32	2.000 (50.8)	2.125 (54.0)

TABLE II: FINISHES

Glenair Symbol	Finish
B	Cadmium Plate, Olive Drab
M	Electroless Nickel
NF	Cadmium Plate, Olive Drab over Electroless Nickel
MT	Ni-PTFE *1000 Hour Grey™* Nickel Fluorocarbon Polymer

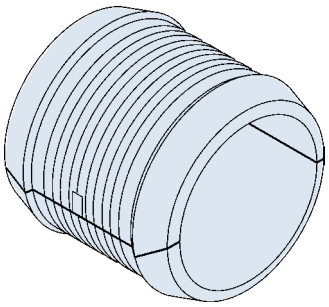
Consult Factory for Additional Finish Options

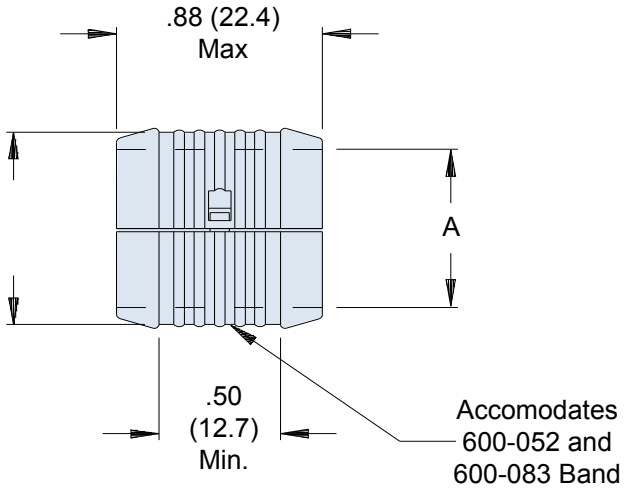
1. When maximum cable entry is exceeded, Style 2 will be supplied. Dimensions F, G, H and J will not apply. Please consult factory.
2. Metric dimensions (mm) are indicated in parentheses.
3. Consult factory for shorter lengths on straight backshells.
4. Backshells supplied with 600-052-* band, see Glenair Series 600 Tool Catalog for installation.

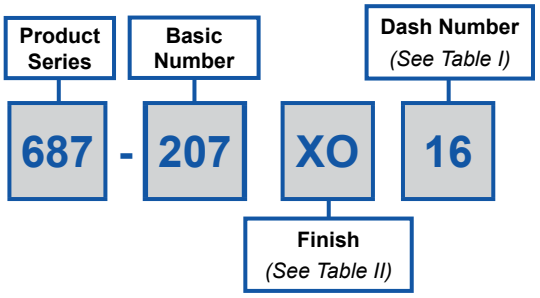
H

687-207
Composite MIL-C-85049/93
Banding Split-Ring

For Use with Glenair Banding Backshells and Braid Socks





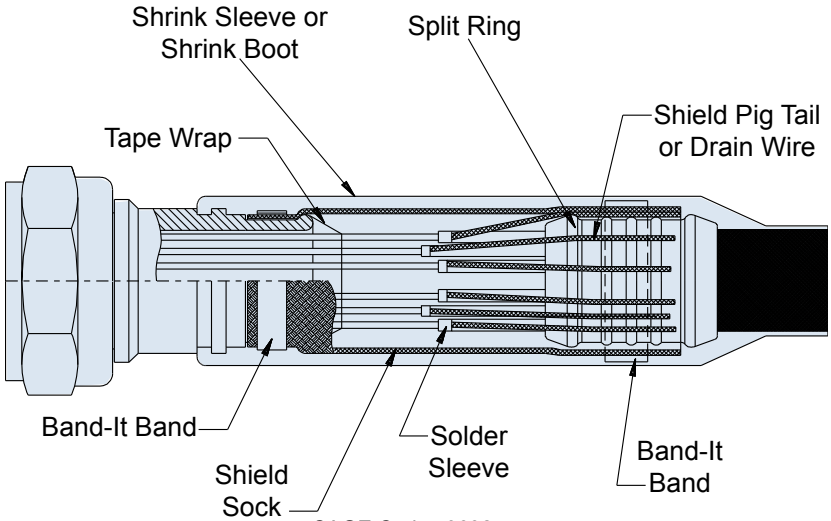


Metric dimensions (mm) are in parentheses and are for reference only.

TABLE I: DASH NUMBER

Dash No.	A Diameter ± .03	(0.8)	B Diameter ± .03	(0.8)
04	.25	(6.4)	.36	(9.1)
06	.38	(9.7)	.49	(12.4)
08	.50	(12.7)	.61	(15.5)
10	.63	(16.0)	.74	(18.8)
12	.75	(19.1)	.86	(21.8)
14	.88	(22.4)	.99	(25.1)
16	1.00	(25.4)	1.10	(27.9)
18	1.13	(28.7)	1.24	(31.5)
20	1.25	(31.8)	1.36	(34.5)
22	1.38	(35.1)	1.49	(37.8)
24	1.50	(38.1)	1.61	(40.9)
26	1.63	(41.4)	1.74	(44.2)
28	1.75	(44.5)	1.86	(47.2)

EXAMPLE APPLICATION



103-026 and -027
EMI/RFI Composite Braided Shielding
100% Composite and 75% / 25% Blended Versions

Product Series | **I.D. Dash Number**

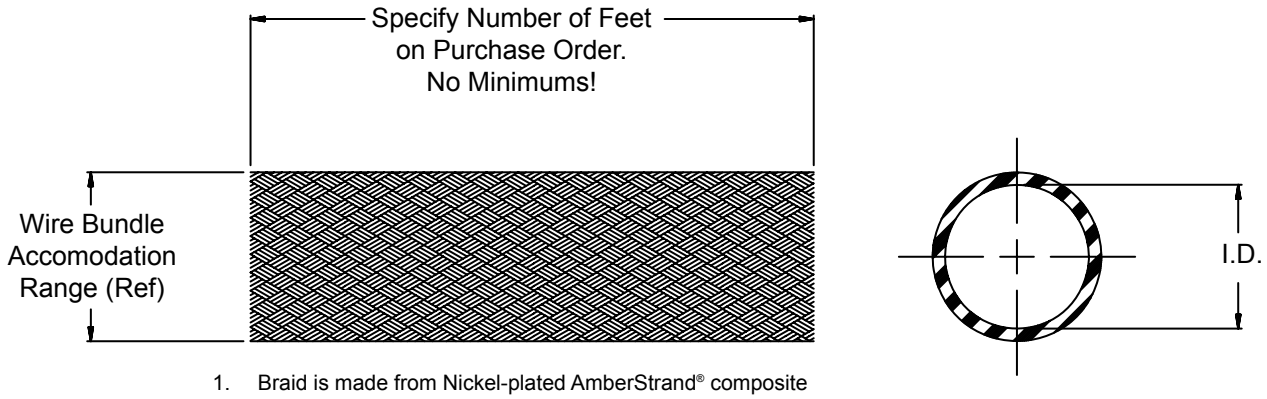
103 - 026 - 024

100% Composite[1]

Product Series | **I.D. Dash Number**

103 - 027 - 024

75% / 25% Composite[1]/ Metal Blend



1. Braid is made from Nickel-plated AmberStrand® composite thermoplastic fibers. AmberStrand® is a registered trademark of Syscom Advanced Materials Inc.

103-026 (100% AmberStrand® Fiber)

Dash Number	Nominal I.D	Wire Bundle Range	Approximate Grams Per Foot
004	.125 (3.2)	.093 (2.4) .140 (3.5)	1.0
008	.250 (6.4)	.125 (3.2) .312 (7.9)	1.8
012	.375 (9.5)	.250 (6.4) .437 (11.1)	2.3
016	.500 (12.7)	.250 (6.4) .590 (15.0)	3.7
020	.625 (15.9)	.375 (9.5) .700 (17.8)	4.4
024	.750 (19.1)	.500 (12.7) .830 (21.1)	5.2
032	1.000 (25.4)	.780 (19.8) 1.100 (27.94)	8.0
040	1.250 (31.8)	.938 (23.8) 1.312 (33.3)	10.0
048	1.500 (38.1)	1.187 (30.1) 1.590 (40.37)	15.2
064	2.000 (50.8)	1.312 (33.3) 2.090 (50.8)	22.0

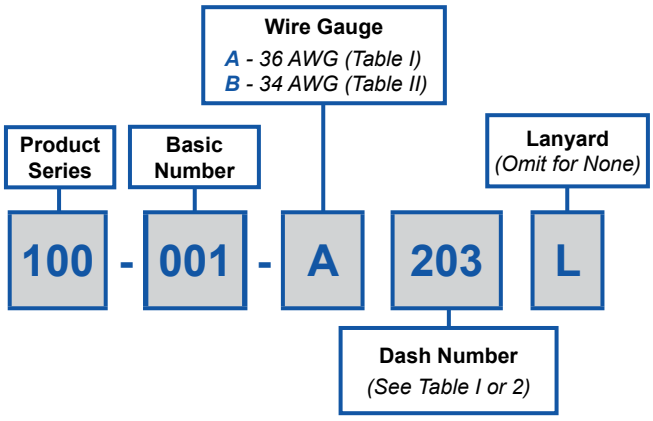
103-027 (75% AmberStrand® Fiber/25% Nickel Copper)

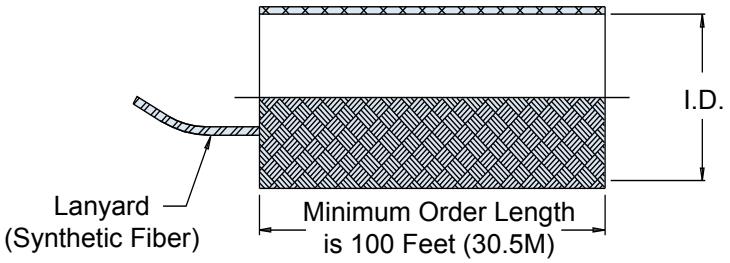
Dash Number	Nominal I.D	Wire Bundle Range	Approximate Grams Per Foot	Carrier Breakdown
004	.125 (3.2)	.093 (2.4) .140 (3.5)	1.5	16 - Amberstrand® 4 - Nickel Copper
008	.250 (6.4)	.125 (3.2) .312 (7.9)	2.4	24 - Amberstrand® 8 - Nickel Copper
012	.375 (9.5)	.250 (6.4) .437 (11.1)	3.9	36 - Amberstrand® 12 - Nickel Copper
016	.500 (12.7)	.250 (6.4) .590 (15.0)	6.0	54 - Amberstrand® 18 - Nickel Copper
020	.625 (15.9)	.375 (9.5) .700 (17.8)	6.4	54 - Amberstrand® 18 - Nickel Copper
024	.750 (19.1)	.500 (12.7) .830 (21.1)	7.2	72 - Amberstrand® 24 - Nickel Copper
032	1.000 (25.4)	.780 (19.8) 1.100 (27.94)	11.0	48 - Amberstrand® 16 - Nickel Copper
040	1.250 (31.8)	.938 (23.8) 1.312 (33.3)	15.0	72 - Amberstrand® 24 - Nickel Copper
048	1.500 (38.1)	1.187 (30.1) 1.590 (40.37)	25.2	72 - Amberstrand® 24 - Nickel Copper
064	2.000 (50.8)	1.312 (33.3) 2.090 (50.8)	32.0	72 - Amberstrand® 24 - Nickel Copper

Metric dimensions (mm) are indicated in parentheses.

CAGE Codes 06324
Printed in U.S.A.

100-001
Tubular Metal Braid QQ-B-575B ASTM B33
Tin Coated Copper
for EMI Shielding Applications





APPLICATION NOTES

1. Consult factory for sizes not shown
2. Metric dimensions (mm) are indicated in parentheses.
3. Direct current ratings are given for information only. Values shown are for uninsulated braid in free air at 86°F (30°C). Actual values will depend on permissible temperature rise, voltage drop and other conditions of service. Values should be de-rated if the braid is insulated or in close contact with other components.

100-001
Tubular Metal Braid QQ-B-575B ASTM B33
Tin Coated Copper
for EMI Shielding Applications

Glenair®

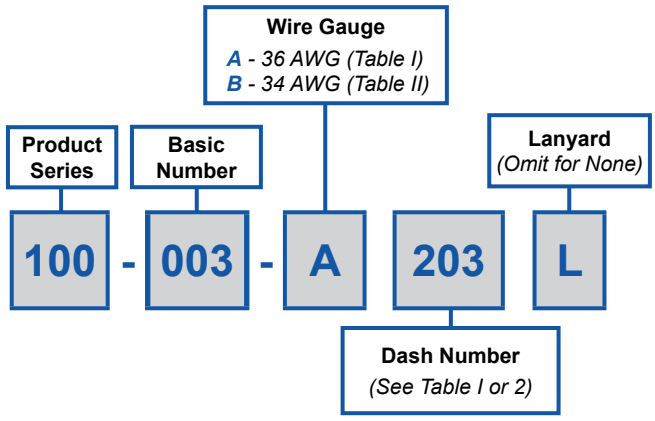
TABLE I (36 AWG)

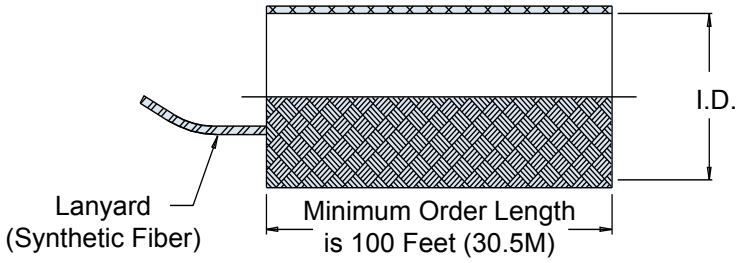
Dash No.	Fractional Equivalent	Nominal I.D.		No. of Carriers	No. of Ends	Current Rating Amps	Lbs./100 Ft. (Kg/30.5M)		Federal Specification No.
031	1/32	.031	(.8)	24	24	7.0	.20	(.09)	QQB575R36T031
062	1/16	.062	(1.6)	24	48	11.0	.40	(.18)	QQB575R36T062
078	5/64	.078	(2.0)	24	72	16.0	.60	(.27)	QQB575R36T078
109	7/64	.109	(2.8)	24	96	19.0	.83	(.38)	QQB575R36T109
125	1/8	.125	(3.2)	24	120	25.0	1.03	(.47)	QQB575R36T125
156	5/32	.156	(4.0)	24	240	40.0	2.09	(.95)	QQB575R36T156
171	11/64	.171	(4.3)	24	168	32.0	1.43	(.65)	QQB575R36T171
188	3/16	.188	(4.8)	24	192	33.0	1.63	(.74)	--
203	13/64	.203	(5.2)	24	312	46.0	2.80	(1.27)	QQB575R36T203
250	1/4	.250	(6.4)	24	384	53.0	3.45	(1.56)	QQB575R36T250
375	3/8	.375	(9.5)	48	384	53.0	3.95	(1.79)	QQB575R36T375
500	1/2	.500	(12.7)	48	528	62.0	4.77	(2.16)	QQB575R36T500
562	9/16	.562	(14.3)	48	624	73.0	5.00	(2.27)	--
625	5/8	.625	(15.9)	48	720	85.0	5.94	(2.69)	--
781	25/32	.781	(19.8)	48	864	88.0	7.35	(3.33)	QQB575R36T781
937	15/16	.937	(23.8)	64	640	65.0	5.83	(2.64)	--
1000	1	1.000	(25.4)	64	768	90.0	7.50	(3.40)	--
1250	1 1/4	1.250	(31.8)	72	792				
1375	1 3/8	1.375	(34.9)	72	864				
1500	1 1/2	1.500	(38.1)	72	936				
2000	2	2.000	(50.8)	96	1152				
2500	2 1/2	2.500	(63.5)	96	1248				

TABLE II (34 AWG)

Dash No.	Fractional Equivalent	Nominal I.D.		No. of Carriers	No. of Ends	Current Rating Amps	Lbs./100 Ft. (Kg/30.5M)		Federal Specification No.
062	1/16	.062	(1.6)	16	32	11.0	.43	(.20)	QQB575R34T062
109	7/64	.109	(2.8)	16	64	19.0	.82	(.37)	QQB575R34T109
125	1/8	.125	(3.2)	24	72	19.0	.92	(.42)	QQB575R34T125
171	11/64	.171	(4.3)	24	120	36.0	1.56	(.71)	QQB575R34T171
203	13/64	.203	(5.2)	24	192	46.0	2.79	(1.27)	QQB575R34T203
375	3/8	.375	(9.5)	48	240	53.0	3.27	(1.48)	QQB575R34T375
437	7/16	.437	(11.1)	48	288	44.2	3.93	(1.78)	--
500	1/2	.500	(12.7)	48	336	62.0	4.77	(2.16)	QQB575R34T500
781	25/32	.781	(19.8)	48	528	88.0	7.14	(3.24)	QQB575R34T781

100-003
Tubular Metal Braid ASTM B355 Class 4 OFHC Nickel Plated Copper
for EMI Shielding Applications





APPLICATION NOTES

1. Consult factory for sizes not shown
2. Metric dimensions (mm) are indicated in parentheses.
3. Direct current ratings are given for information only. Values shown are for uninsulated braid in free air at 86°F (30°C). Actual values will depend on permissible temperature rise, voltage drop and other conditions of service. Values should be de-rated if the braid is insulated or in close contact with other components.

100-003
Tubular Metal Braid ASTM B355 Class 4 OFHC Nickel Plated Copper
for EMI Shielding Applications

Glenair®

TABLE I (36 AWG)

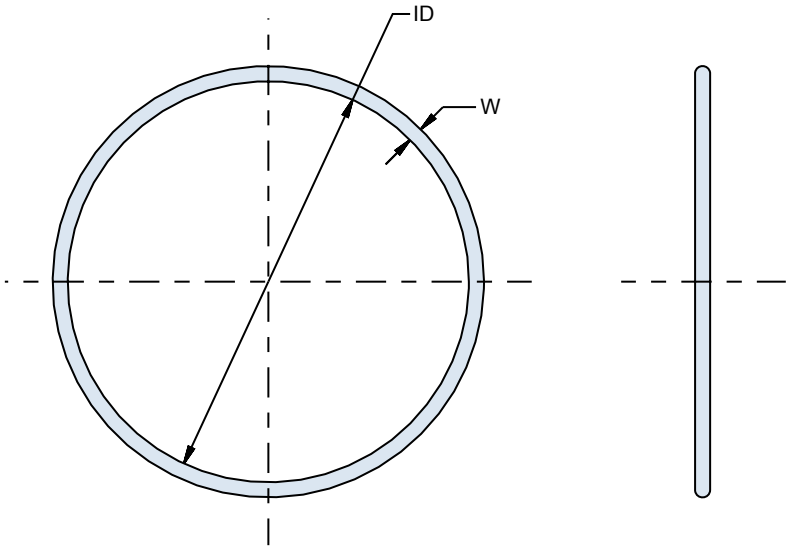
Dash No.	Fractional Equivalent	Nominal I.D.		No. of Carriers	No. of Ends	Current Rating Amps	Lbs./100 Ft. (Kg/30.5M)	
031	1/32	.031	(.8)	24	24	7.0	.20	(.09)
062	1/16	.062	(1.6)	24	48	11.0	.40	(.18)
078	5/64	.078	(2.0)	24	72	16.0	.60	(.27)
109	7/64	.109	(2.8)	24	96	19.0	.83	(.38)
125	1/8	.125	(3.2)	24	120	25.0	1.03	(.47)
156	5/32	.156	(4.0)	24	240	40.0	2.09	(.95)
171	11/64	.171	(4.3)	24	168	32.0	1.43	(.65)
188	3/16	.188	(4.8)	24	192	33.0	1.63	(.74)
203	13/64	.203	(5.2)	24	312	46.0	2.80	(1.27)
250	1/4	.250	(6.4)	24	384	53.0	3.45	(1.56)
375	3/8	.375	(9.5)	48	384	53.0	3.95	(1.79)
500	1/2	.500	(12.7)	48	528	62.0	4.77	(2.16)
562	9/16	.562	(14.3)	48	624	73.0	5.00	(2.27)
625	5/8	.625	(15.9)	48	720	85.0	5.94	(2.69)
781	25/32	.781	(19.8)	48	864	88.0	7.35	(3.33)
937	15/16	.937	(23.8)	64	640	65.0	5.83	(2.64)
1000	1	1.000	(25.4)	64	768	90.0	7.50	(3.40)
1250	1 1/4	1.250	(31.8)	72	792			
1375	1 3/8	1.375	(34.9)	72	864			
1500	1 1/2	1.500	(38.1)	72	936			
2000	2	2.000	(50.8)	96	1152			
2500	2 1/2	2.500	(63.5)	96	1248			

TABLE II (34 AWG)

Dash No.	Fractional Equivalent	Nominal I.D.		No. of Carriers	No. of Ends	Current Rating Amps	Lbs./100 Ft. (Kg/30.5M)	
062	1/16	.062	(1.6)	16	32	11.0	.43	(.20)
109	7/64	.109	(2.8)	16	64	19.0	.82	(.37)
125	1/8	.125	(3.2)	24	72	19.0	.92	(.42)
171	11/64	.171	(4.3)	24	120	36.0	1.56	(.71)
203	13/64	.203	(5.2)	24	192	46.0	2.79	(1.27)
375	3/8	.375	(9.5)	48	240	53.0	3.27	(1.48)
437	7/16	.437	(11.1)	48	288	44.2	3.93	(1.78)
500	1/2	.500	(12.7)	48	336	62.0	4.77	(2.16)
781	25/32	.781	(19.8)	48	528	88.0	7.14	(3.24)
1000	1	1.000	(25.4)	64	576	150.0	7.33	(3.33)
1250	1 1/4	1.250	(31.8)	72	648			

249-001
Conductive O-Ring for
Jam Nut Receptacle Connectors

Basic Number		Dash Number (See Table I)		Material Symbol (See Table II)
249 - 001	-	09	-	H



H

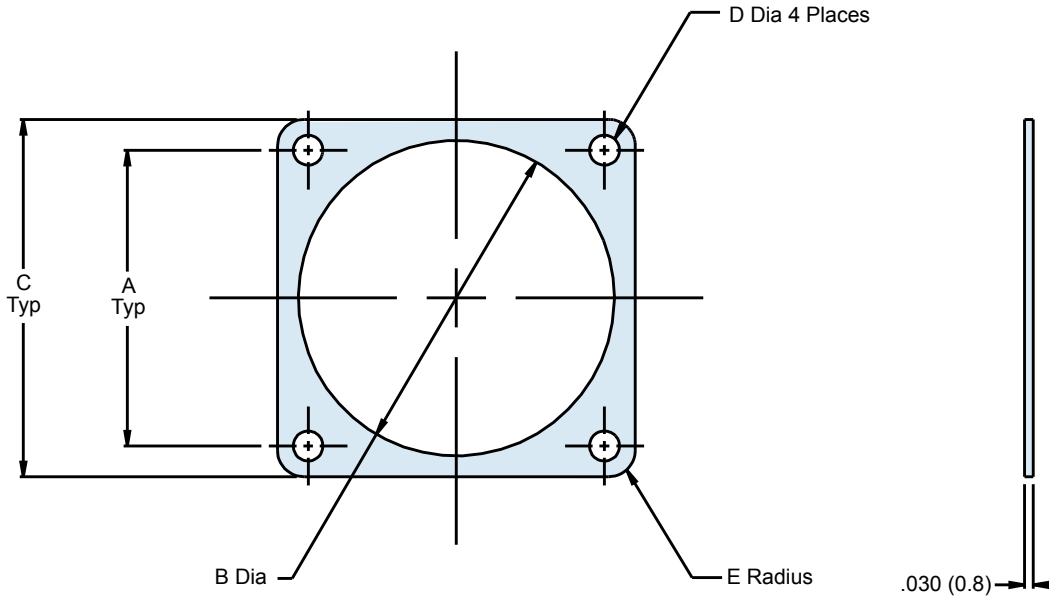
TABLE I	
Dash Number	**O-Ring ID x W**
-09	.801 x .070
-11	.989 x .070
-13	1.114 x .070
-15	1.239 x .070
-17	1.364 x .070
-19	1.487 x .103
-21	1.612 x .103
-23	1.737 x .103
-25	1.862 x .103

TABLE II	
Designator	**Material**
B	Silver Plated Aluminum in Silicone (CHO-Seal 1285)
C	Silver Plated Aluminum in Flourosilicone (CHO-Seal in 1298 or Equivalent)
H	Silver Plated Copper in Silicone (CHO-Seal 1215 or Equivalent)

249-002
Conductive Gasket for
Flange Mount Receptacle Connector

Product Series	Basic Number	Material Symbol (See Table II)
249	002	09 - H

Dash Number (See Table I)



NOTES:

1. Identified by bag and tag in suitable quantities.
2. Metric dimensions (mm) are indicated in parentheses.

TABLE I					
Dash Number	A ± .005	Ø B ± .007	C ± .008	Ø D ± .005	E Radius ± .015
-09	.719	.687	.937	.125	.105
-11	.812	.772	1.031	.125	.105
-13	.906	.937	1.125	.125	.105
-15	.969	1.063	1.250	.125	.135
-17	1.062	1.187	1.343	.125	.135
-19	1.156	1.312	1.467	.125	.135
-21	1.250	1.437	1.652	.125	.135
-23	1.375	1.562	1.703	.152	.135
-25	1.500	1.600	1.812	.152	.135

TABLE II	
Designator	Material
C	Flourosilicone Binder with Passivated Silver Plated Aluminum Particles (CHO-Seal in 1298 or Equivalent)
H	Silicone Binder with Silver Plated Copper Particles (CHO-Seal 1215 or Equivalent)

Index of Filter Connector Products and Part Numbers

CAGE Codes 06324

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