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ABOUT AMPHENOL AEROSPACE:

Amphenol Aerospace, a Division of Amphenol Corporation, is one of the largest manufacturers of interconnect products in the world for the Military, Commercial Aerospace and Industrial markets. Amphenol designs, manufactures and markets circular and rectangular, electronic, fiber optic, EMI/EMP filter, and a variety of special applications connectors and interconnect systems.

Our 675,000 square foot facility is nestled at the foothills of the Catskill Mountains in Sidney NY. The Amphenol complex houses state-of-the-art manufacturing technologies including CNC machining, die-casting, molding, impact and extruding, plating, screw machining and process controls. Our fully equipped material evaluation lab and engineering organization, utilizing the latest in computer aided design software and analysis tools, allows us to design, test, and qualify interconnect systems.

Amphenol's interconnect products are supplied to thousands of OEMs worldwide and are supported by our worldwide sales and engineering force, including the largest global network of electronic distributors.

The Amphenol Aerospace Division consists of the interconnect facility in NY; two facilities in NH that manufacture electrical backplanes, rigid boards and flex assemblies; an interconnect facility in Toronto, Canada; and satellite assembly plants in Mexico and China.

AMPHENOL AEROSPACE'S PHILOSOPHY:

As a basic business philosophy, Amphenol Aerospace is dedicated to concentrating on those advanced and challenging market segments that demand an extraordinary level of supplier support and reaction. Our approach to implement this strategy is based on the following key principles:

FOCUS: Concentrate all resources on serving a limited number of tightly defined markets, and understanding the needs of those markets.

INNOVATION: Provide these markets new, creative solutions in both products and services.

RESPONSIVENESS: Identify and respond to the market and product needs more rapidly than any other supplier.

Performance is the sum of these principles. It is the measure of how well we continually and consistently implement our basic strategy and key principles.



CUSTOMIZED INTERCONNECT PACKAGES:

Amphenol Corporation's broad technical, product and manufacturing resources enable Amphenol Aerospace to provide exceptional performance in the area of customized system development-application specific packaging, which blends both Corporate and Amphenol Aerospace products and design innovations. We provide customers with rapid, well engineered and cost-effective custom interconnect solutions.

QUALITY ASSURANCE:

Amphenol Aerospace has been awarded both AS9100 - Revision C and ISO9001:2000 quality assurance certifications.

38999

III

HD

Dualok

II

I

SJT

Accessories

Aquacon

Herm/Seal

PCB

HIGH
SPEED

Fiber
Optics

Contacts
Connectors
Cables

EMI Filter
Transient

26482
Matrix 2

83723 III
Matrix Pyle

26500
Pyle

5015
Crimp Rear
Release
Matrix

22992
Class 1

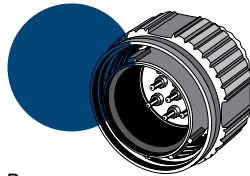
Back-
Shells

Options
Others

38999

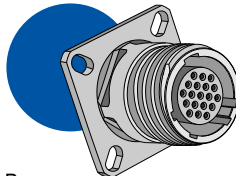
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MIL-DTL-38999 Series III, TV



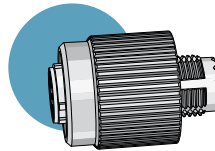
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HD38999 High Density



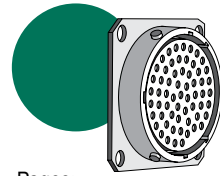
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Dualok



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MIL-DTL-38999 Series II, JT

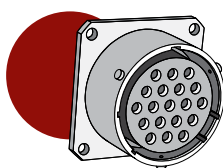


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HIGH SPEED

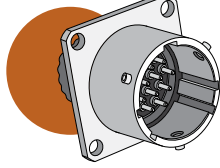
Fiber Optics
Contacts
Connectors
Cables

MIL-DTL-38999 Series I, LJT



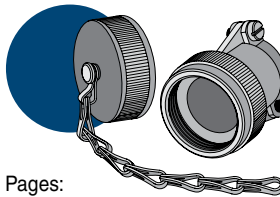
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6-9 Shell & Insert Chart
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83-96 LJT Styles

SJT



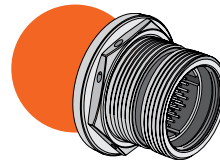
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38999 & SJT Accessories



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Aquacon



Pages:
128 Shell & Insert Chart
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EMI Filter Transient

26482 Matrix 2

83723 III Matrix I Pyle

26500 Pyle

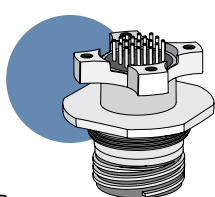
5015 Crimp Rear Release Matrix

22992 Class I

Back-Shells

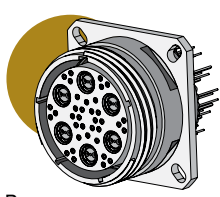
Options Others

Hermetic/Sealed



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140 High Speed Hermetics
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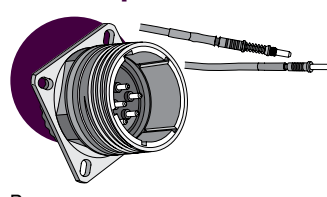
PCB



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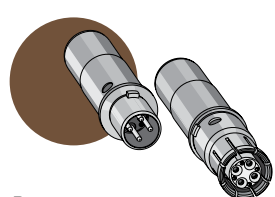
High Speed Interconnects

Fiber Optics



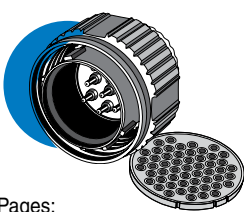
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208-211 Accessories, Tools and Cable Systems

Contacts



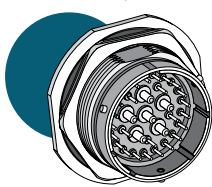
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EMI/EMP Filter Protection



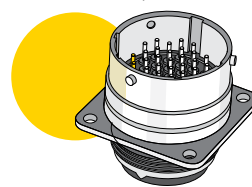
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MIL-DTL-26482 Series 2, Matrix



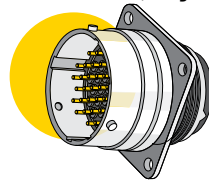
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MIL-DTL-83723 Series III, Matrix



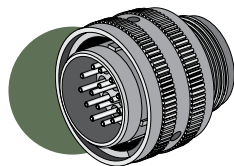
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MIL-DTL-83723 Series III, Pyle



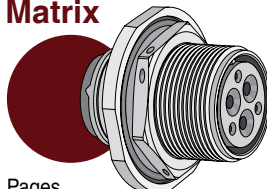
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374-381 How to Order
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MIL-DTL-26500 Pyle



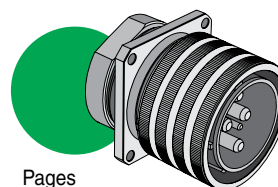
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 399,400 Insert Patterns
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 414,415 How to Order
 421 How to Order
 405-419 Shell Styles
 422-431 Accessories/Contacts/Tools
 Assembly Instructions

MIL-DTL-5015 Crimp Rear Release Matrix



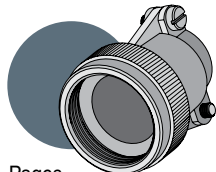
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 447 How to Order
 448-455 Shell Styles
 456-459 Accessories/Contacts/Tools

MIL-DTL-22992 Class L



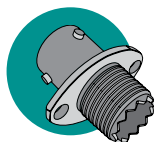
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Options Others



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 564-571 Additional Circulars
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NEW/FEATURED PRODUCTS:

Amphenol has become the leader in interconnection products through its long history of engineering expertise for product solution solving. New and innovative solutions are under development every day within our highly skilled engineering departments who are teamed with marketing product managers and production specialists. They are always striving to meet new customer requirements in ever changing markets. The teams have a customer-driven approach to produce the end result: quality interconnect products that meet or exceed customer demands.



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Options
Others



New/Featured

Dualok

**NEW High Vibration Connector
38999 Series III Type
Connector for High Vibration**

The Dualok represents the latest in high performance connector designs from Amphenol. Featuring a newly developed locking mechanism, the Dualok plug ensures rock-solid coupling and metal-to-metal bottoming in the most severe vibration environments. See pages 55-60 for more information.

Patent Pending



**New High Vibration
Dualok Connector**



New/Featured

HD38999

High Density

**HD38999 (High Density, Crimp)
Plugs and Receptacles
Featuring Double Flange
Receptacles**

The HD38999 family of connectors was designed to work with existing Mil-specified 38999 shells. The HD38999 has 30% more contacts, it still performs to minimum electrical requirements of standard 38999 connectors. See pages 46-54 for more information.



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New/Featured



New Hybrid Lanyard Release Plugs
(Metal inside shells & Composite, lower profile outer sleeves)

New Hybrid Lanyard Breakaway Fail Safe connector with a composite thermoplastic outer operating sleeve for greater durability.

This new hybrid breakaway is the breakaway of choice for the Navy F-18 Program. Amphenol's hybrid lanyard design offers greater durability over D38999 aluminum and composite designs because of its ability to handle abuse taken after weapons release.

Other advantages include:

- Lower profile compared to full metal breakaway Fail Safe connectors
 - Less weight
- See page 45 for more information.

New/Featured



New MIL-DTL-26500 Pyle Commercial Design with PCB Contacts:

- Intermateable with standard 26500 plugs
- Non-removable PC tail contacts
- Special shell geometries and clinch nut available
- Single piece insert
- Ideal for high volume cost sensitive applications

See page 419 for more information or contact Amphenol Aerospace.

New/Featured



New "Split-Pair" Quadrax Contacts & Cable Assemblies for MIL-DTL-38999, Series III Circulars for use with CAT6A Type Cable

Amphenol Aerospace offers the high performance interconnect solution for CAT6A type cable.

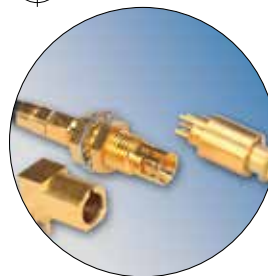
Some Features & Benefits:

- Overall higher bandwidth than standard CAT5E quadrax
 - Enhanced crosstalk performance (compared to standard quadrax) due to compatibility with shielded twisted pair cables
 - Can be used for a variety of high speed applications beyond current quadrax designs.
- See page 227-230 for more information.



MIL-DTL-38999 Series III Connectors with "Split-Pair" Quadrax Contacts for use with CAT6A Type Cable

New/Featured



Micro D-Twinax Transition Adapters

Micro D-Twinax Transition Adapters

Amphenol now offers differential twinax transition adapters in smaller sizes that provide matched impedance interconnection to PCB boards. Our unique push-pull quick disconnect adapter. See page 238-240 for more information.

New/Featured



MIL-DTL-38999 Series III, Double Flange Receptacles for PC Board Mounting

Amphenol double flange receptacles for PC board mounting offer a convenient method of PC board attachment.

The advantages of Attaching directly to the connector shell are:

- Offers improved grounding
- Relieves stress on contact solder joints
- Eliminates the need for additional hardware

Durmalon Connector Finish

Alternative to Cadmium

“Durmalon”- Amphenol’s answer to EU RoHS/ELV/Cadmium Free Restrictions.

Commercial, industrial & military markets are rapidly moving away from hazardous materials such as Cadmium (Cd) & Hexavalent Chrome (Cr6+). Amphenol is offering an alternative finish & process that complies with all customer requirements tied to these specifications. MIL-DTL-38999 Rev L has established 3 new service classes as alternative finishes addressing these requirements for Cadmium replacement. Amphenol is using this and European Union Directive 2002/95/EC RoHS (Regulation of Hazardous Substances) as a guide to qualification for all domestic, global, commercial, industrial, & military specifications requiring the reduction or elimination of these hazardous materials.

Amphenol has qualified Durmalon, with internal part number coding “DT” finish, which meets or exceeds the 38999 designated class “T” finish, Nickel Fluorocarbon Polymer. Durmalon is also EU RoHS-compliant.

We also continue to develop additional platings such as “DX”, (Durmalon, heavy duty final plate) to support JSF, F-35 Program. The DX plating is intended to meet higher corrosivity Sulfur Dioxide (SO2)/salt fog requirements of JSF. Also under development is “DZ” (Zinc Nickel) to meet D38999 class “Z” plating. Please consult Amphenol Aerospace for availability as we continue testing.

Cadmium has been applied to numerous components of land, sea and air weapon systems and NASA systems for many years as it provides sacrificial corrosion protection and excellent lubricity for threaded applications. However, cadmium is a toxic metal and a known carcinogen.

The Defense Logistics Agency (DLA) has added three cadmium alternative finishes to MIL-DTL-38999, Rev L (and other connector specs):

- Nickel Fluorocarbon Polymer
- Pure Dense Electro-Deposited Aluminum (Alumiplate)
- Zinc-Nickel

Amphenol’s Durmalon

Durmalon, like Olive-Drab Cadmium plating (Class W), meets 500 hours of dynamic salt spray, combined with 500 mating cycles and meets specified millivolt drop shell-to-shell conductivity. Of all platings tested, Durmalon has been proven to meet this requirement and also Potassium Formate-Deicer fluid testing performed by Boeing.

DURMALON™
Alternative to Cadmium



Applications

Interest for non-hazardous alternative finishes is gaining momentum & many customers are currently using Durmalon for a broad number of applications. Durmalon combines the unique lubrication and anti-wetting properties of PTFE with corrosion resistance, high conductivity and EU RoHS compliance in a non-reflective finish.

Testing

Amphenol Aerospace has performed extensive testing on numerous alternative platings with the most consistent performer being the Durmalon. For specific applications please contact Amphenol Aerospace.

Requirements	Cadmium	Durmalon™	Zinc Nickel	Alumiplate SM	Zinc Cobalt	Stainless Steel	Electroless Nickel
Coupling Torque Post 500 hr. salt	■	■	■	■	NA	■	NA
Shell to Shell Conductivity <1 millivolts							■
<2.5 millivolts	■	■	■	■			
<10 millivolts	■	■	■	■	■	■	
Cycles of Durability 500 mates	■	■	■	■	TBD	■	■
Salt Spray 48 hours	■	■	■	■	■	■	■
Dynamic 500 hours	■	■	■	■		■	
Temperature Rating 175°C	■	■	■	■	■	■	
200°C		■				■	■
Non-Reflective	■	■	■	■	■		
EU RoHS/ELV Compliant*		■	■	■	■	■	■
Non-Magnetic	■	■	■	■	■	■	■
Available in Composite	■	■	■	■	■		■
De-icing Fluid**		■				■	

* Meets EU RoHS/ELV maximum concentration values (MCV) of 1000 ppm (0.1% w/w) or (0.01% w/w) per homogenous material.

** Potassium Formate/Acetate based de-icing fluids.

Notice: Specifications are subject to change without notice.

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Matrix Pyle

26500
Pyle

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26482 Matrix 2

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Options Others

Series	Series	Series	Military	MIL-DTL-27599	Crimp	Class H	Class Y	TV*	Service Rating	Total Contacts	23 HD	22D	22M	22	20	16	12	12 (Coax)	10 (Power)	8 (Coax)	8†† (Twinax)
JT II	LJT I	TV III	III	JT/LJT Solder																	
		7-D2							M	2		2									
		7-D3							M	3		3									
		7-D4							M	4		4									
8-2■				P					M	2					2						
8-3■				X	NA	P	P		M	3					3						
	9-3■			X					M	3											
		9-5★■							Grounded	1											1
8-6				X	X	P	P		M	6			6								
	9-6			X	X	P	P		M	7			7								
	9-7■			X					M	7											
		9-9■							N	9	9										
	9-22■			X					I	2					2						
8-35					X	P	P		M	6		6									
	9-35	9-35	A35		X	P	P	P	M	6											
8-44					X	P	P		M	4				4							
	9-44				X				M	4											
		9-94■			◆				M	2					2						
8-97■				X					M	4			2		2						
8-98				S	X	P	P		I	3					3						
	9-98	9-98	A98	X	X	P	P	P	I	3											
	11-2★	11-2★	B2		X	P**			I	2					2						
10-4					3				I	4					4						
	11-4	11-4		X	S/2				I	4											
10-5				X	X	P	P		I	5					5						
	11-5	11-5	B5	X	X			P	I	5											
	11-6■			S					I	6					6						
10-13				X	X	P/S	P/S		M	13			13								
	11-13			X	X	P/S	P/S		M	13											
		11-19■							N	19	19										
10-35					X	P/S	P/S		M	13		13									
	11-35	11-35	B35		X	P/S	P/S	P	M	13											
		11-54■			X	◆			II	4		4									
10-98				X	X	P/S	P/S		I	6					6						
	11-98	11-98	B98	X	X	P/S	P/S	P	I	6											
10-99					X	P	P		I	7											
	11-99	11-99	B99		X	X		P	I	7					7						
12-3				X	X	◆	P	P	II	3						3					
	13-3■				P				II	3											
12-4				X	X	P	P		I	4					4						
	13-4★	13-4★	C4	X	X	P	P	P	I	4											
12-8				X	X	P	P		I	8					8						
	13-8	13-8	C8	X	X	P	P	P	I	8											
		13-13■							I, Fiber Optic	4						2**	2				
12-22					X	P/S	P/S		M	22			22								
	13-22			X	X	P/S	P/S		M	22											
		13-26■			2				M	8		2					6				
		13-32■							N	32	32										
12-35					X	P/S	P/S		M	22		22									
	13-35	13-35	C35		X	P/S	P/S	P	M	22											
		13-63■			◆				I	4					2	2					
12-98				X	X	P/S	P/S		I	10					10						
	13-98	13-98	C98	X	X	P/S	P/S	P	I	10											
14-4■					2				I	4							4				
	15-4■	15-4■			2	◆			I	4											
14-5				X	X	P	P		II	5						5					
	15-5★	15-5★	D5	X	X	P	P	P	II	5											

- X Completely tooled.
 • Majority of tooling is completed (contact Amphenol Aerospace for availability).
 ◆ Not tooled for 02-R.
 P Available with Pin contacts only
 S Available with Socket contacts only
 P/S Available with Pin contacts or Socket contacts
 ★ Ground plane proprietary option available. Arrg. 9-5 is exclusively ground plane type.
 ■ Not Mil-Qualified.
 ◆ 21-75 is Mil-Qualified with twinax contacts only.
 Note: MS connector 21-75 is supplied with size 8 twinax.
 Commercial connector 21-75 is supplied with size 8 coax.

- HD designates High Density 38999 Series III insert patterns which use size 23 contacts only. Not rated over 175°C.
 * Hermetic inserts - solder termination standard. (Contact Amphenol Aerospace for optional PCB or eyelet termination).
 ** Two size 16 contacts dedicated to fiber optics. See the Fiber Optic section for more information.
 *** For use in MIL-STD-1760 applications (see pages 43 & 44).
 † For RG 180/U and RG 195/U cables only.
 †† Size 8 Coax and Twinax are interchangeable.
 (2) Not Tooled for RP or 02RE
 (3) Pin inserts only, not tooled for RP or 02RE (Consult Amphenol Aerospace for avail.)
 (5) MS Connector 21-79 has provision for two size 8 coax contacts. Coax contacts are not supplied unless specified by customer.

MIL-DTL-38999, Series I LJT, II JT, III TV, HD

Insert Availability and Identification Chart

Series	Series	Series	Military	MIL-DTL-27599 JT/LJT Solder	Crimp	Class H	Class Y	TV*	Service Rating	Total Contacts	23 HD	22D	22M	22	20	16	12	12 (Coax)	10 (Power)	8 (Coax)	8†† (Twinax)
JT II	LJT I	TV III	III																		
14-15				X	X	P	P		I	15					14	1					
	15-15	15-15	D15	X	X	P/S	P/S	P	I	15					14	1					
14-18				X	X	P/S	P/S														
	15-18	15-18	D18	X	X	P/S	P/S	P	I	18					18						
14-19■				X	X																
	15-19	15-19	D19		X	P	P	P	I	19					19						
14-35					X	P	P														
	15-35	15-35	D35		X	P/S	P/S	P	M	37		37									
14-37				X	X	P	P		M	37			37								
	15-37			X	X	P	P														
		15-55■							N	55	55										
14-68■					2	P	P		1	8						8					
	15-68■			X	3																
14-97■					X	P	P		I	12					8	4					
	15-97	15-97	D97	X	X	P	P	P	M	39		38									1
	17-2	17-2	E2		X	+															
16-6					X	P	P		I	6							6				
	17-6	17-6	E6		X	P	P	P													
16-8				X	X	P	P														
	17-8★	17-8★	E8	X	X	P/S	P/S	P	II	8					8						
16-13■					2				I	13					13						
	17-13■				2																
	17-22■	17-22★■			+				Coax	4							2		2		
	17-25■				2				M	24		22							2		
16-26				X	X	P/S	P/S		I	26					26						
	17-26	17-26	E26	X	X	P/S	P/S	P													
16-35					X	P	P		M	55		55									
	17-35	17-35	E35	X	X	P	P	P													
16-42					X				M	42			42								
	17-42■				P																
		17-52■			X	+			M	2											2
16-55				X	X	P/S	P/S		M	55			55								
	17-55			X	X	P/S	P/S														
		17-60■			X				I/Coax	10		8							2		
		17-73■							N	73	73										
16-99				X	X	P	P		I	23					21	2					
	17-99	17-99	E99	X	X	P	P														
		19-AD■			X	+			Inst.	17					16						1
18-11				X	X	P	P														
	19-11★	19-11★	F11	X	X	P	P	P	II	11					11						
	19-18	19-18	F18		2	X			M	18		14									4
18-28				X	X				I	28					26	2					
	19-28■	19-28	F28	X	P	X															
18-30				X	X				I	30					29	1					
	19-30■			X	P																
		19-31■			X				M	15		12					1			2	
18-32				X	X	P/S	P/S		I	32					32						
	19-32	19-32	F32	X	X	P/S	P/S	P													
18-35					X	P	P		M	66		66									
	19-35	19-35	F35		X	P	P	P													
18-53				X	X				M	53			53								
	19-53■				P																
18-66				X	X	P	P		M	66			66								
	19-66				X	P	P														
	19-67■			X	3	S	S		M	67			67								
18-68■					2																
	19-68■	19-68			3	S			I	18					18						
18-96■					2				I	9						9					
		19-88■							N	88	88										
20-1					X	P	P		M	79			79								
	21-1				X	P/S	P/S														

38999

III

HD

Dualok

II

I

SJT

Accessories

Aquacon

Herm/Seal

PCB

**HIGH
SPEED**

Fiber
Optics

Contacts
Connectors
Cables

EMI Filter
Transient

26482
Matrix 2

83723 III
Matrix | Pyle

26500
Pyle

5015
Crimp Rear
Release
Matrix

22992
Class L

Back-
Shells

Options
Others

38999	Series	Series	Series	Military	MIL-DTL-27599 JT/LJT Solder	Crimp	Hermetics			Service Rating	Total Contacts	Contact Size										
	III	II	I				H	Y	TV*			23 HD	22D	22M	22	20	16	12	12 (Coax)	10 (Power)	8 (Coax)	8†† (Twinax)
III	JT II	LJT I	TV III	III																		
HD	20-2	21-2■				X			M	65					65							
Dualok	20-11■	21-11★	21-11★	G11		3			I	11								11				
II	20-16	21-16★	21-16★	G16	X	X	P/S	P/S		II	16						16					
I		21-25■								I	25					25						
SJT		21-27■			X					I	27					27						
Accessories			21-29■			X				I	27					19	4	4				
Aquacon	20-35	21-35	21-35	G35		X	P	P		M	79		79									
Herm/Seal	20-39	21-39	21-39	G39	X	X	P	P	P	I	39					37	2					
PCB	20-41	21-41	21-41	G41	X	X	P	P	P	I	41					41						
		21-75★	21-75★	G75		2	X			N	M	4									4	(4)
HIGH SPEED		21-79■	21-79■			2	X			II	19		17								2	(5)
Fiber Optics			21-121■							N	121	121										
Contacts	22-1	23-1				X	P/S	P/S		M	100			100								
Connectors	22-2	23-2			X	X	P	P		M	85				85							
Cables		23-6★■	23-6★■			P				M	6											6
	22-14■	23-14■	23-14■			2	◆			I	14							14				
EMI Filter Transient	22-21	23-21★	23-21★	H21	X	X	P	P	P	II	21						21					
	22-32	23-32■			X	X	P	P		I	32					32						
		23-34■			X	P				I	34					34						
26482 Matrix 2	22-35	23-35	23-35	H35		X	P/S	P/S	P	M	100		100									
	22-53■	23-53	23-53	H53	X	X	P/S	P/S	P	I	53					53						
83723 III Matrix Pyle			23-54■			X				M	53		40				9	4				
	22-55	23-55	23-55	H55	X	X	P	P	P	I	55					55						
		23-97■			X					II	16						16					
26500 Pyle		23-99■			X					II	11						11					
			23-151■							N	151	151										
	24-1	25-1				X	P	P		M	128			128								
	24-2	25-2				X				M	100				100							
5015 Crimp Rear Release Matrix	24-4	25-4	25-4	J4		X			P	I	56					48	8					
		25-7■	25-7	J7		X				M Twinax	99		97								2	
		25-8★	25-8★	J8		◆				Twinax	8											8
22992 Class I		25-11***	25-11***	J11		2	◆			N	11					2				9		
		25-17■				◆				M	42		36									6
	24-19■	25-19★	25-19★	J19		X			P	I	19							19				
		25-20■	25-20***	J20		2	◆			N	30					10	13	4				3

X Completely tooled.

- Majority of tooling is completed (contact Amphenol Aerospace for availability).
- Not tooled for 02-R.

P Available with Pin contacts only

S Available with Socket contacts only

P/S Available with Pin contacts or Socket contacts

★ Ground plane proprietary option available. Arrg. 9-5, 26-62 is exclusively ground plane type.

■ Not Mil-Qualified.

◆ 21-75 is Mil-Qualified with twinax contacts only.

* Hermetic inserts - solder termination standard. (Contact Amphenol Aerospace for optional PCB or eyelet termination).

■ HD designates High Density 38999 Series III insert patterns which use size 23 contacts only. Not rated over 175°C.

** Two size 16 contacts dedicated to fiber optics. See the Fiber Optic Section for more information.

*** For use in MIL-STD-1760 applications (see pages 43 & 44).

† For RG 180/U and RG 195/U cables only.

†† Size 8 Coax and Twinax are interchangeable.

(2) Not Tooled for RP or 02RE

(3) Pin inserts only, not tooled for RP or 02RE (Consult Amphenol for avail.)

(4) MS connector 21-75 is supplied with size 8 twinax. Commercial connector 21-75 is supplied with size 8 coax.

(5) MS Connector 21-79 has provision for two size 8 coax contacts. Coax contacts are not supplied unless specified by customer.

MIL-DTL-38999, Series I LJT, II JT, III TV, HD

Insert Availability and Identification Chart

Series	Series	Series	Military	MIL-DTL-27599		Hermetics					Contact Size											
JT II	LJT I	TV III	III	JT/LJT Solder	Crimp	H	Y	TV*	Service Rating	Total Contacts	23 HD	22D	22M	22	20	16	12	12 (Coax)	10 (Power)	8 (Coax)	8†† (Twinax)	8 Quadrx
24-24					X	P	P		I	24						12	12					
	25-24★	25-24★	J24		X	P	P		I	25					16	5				4		
		25-26■★			◆				I	25												
24-29					X				I	29						29						
	25-29★	25-29★	J29	X	X				I	29												
24-35					X	P	P		New	128		128										
	25-35	25-35	J35		X	P	P	P	M	128												
24-37					X				I	37						37						
	25-37★	25-37★	J37		X				I	37												
24-43■					3				I	43						23	20					
	25-43	25-43	J43	X	2	◆			I	43												
	25-46	25-46	J46		2	◆			I	46						40	4			2		
24-61					X		P	P	I	61						61						
	25-61	25-61	J61	X	X	P	P	P	I	61												
		25-62■★			X	◆			I	12						8						4
		25-90			◆				I	46						40	4				2	
		25-187■							N	187	187											
		25-F4■			X				M/I	66		49				13	4					

- HD designates High Density 38999 Series III insert patterns which use size 23 contacts only. Not rated over 175°C
- X Completely tooled.
- ◆ Not tooled for 02-R.
- P Pin inserts only (contact Amphenol Aerospace for socket availability).
- ★ Ground plane proprietary option available. Arrg. 9-5, 25-62 is exclusively ground plane type.
- Not Mil-Qualified.

TV Series III

Select Shell Size - Special Insert Arrangement

(Not Mil-Spec Qualified)

Shell Size-Insert Arrg.	Crimp	Hermetics*	Service Rating	Total Contacts	Comments	Contact Size			
						22D	20	16	12
9-2	X		I	2	Formerly Pyle		2		
15-4	X		II	4	Formerly Pyle			4	
15-25	X		M	25	Formerly Pyle	22		3	
17-20	X		M	20	Formerly Pyle		16	4	
21-12	X		I	12	Formerly Pyle		3		9
21-21	X		M/Inst.	41	Improved sealing	32			9
21-99	X		M	16	Formerly Pyle	5			11
25-92	X		M	101	Formerly Pyle	92		9	
25-97	X		M	42	Formerly Pyle	26		3	13

Select Non-Standard Shell Size

- Special Insert Arrangement

Shell Size-Insert Arrg.	Crimp	Hermetics*	Service Rating	Total Contacts	Contact Size				
					22D	20	8	4	0
25-16	X		M	8		6		2	
25L-3	X		II	3			1	2	
25L-7	X		II	7			7		
33-3	X		II	3				1	2
33-5	X		II	5				5	
33-6	X		II	6			2	4	
37-5	X		II	4					4

(Insert arrangements requiring non-standard shells or larger contacts)

- X Completely tooled.
- Majority of tooling is completed (contact Amphenol Aerospace for availability).
- ◆ Not tooled for 02-R.
- P Pin inserts only (contact Amphenol Aerospace for socket availability).
- ★ Ground plane proprietary option available. Arrangement 9-5, 25-62 is exclusively ground plane type.
- Not Mil-Qualified.
- * Hermetic inserts - solder termination standard. (Contact Amphenol Aerospace for optional PCB or eyelet termination).
- ** Two size 16 contacts dedicated to fiber optics. See the Fiber Optic section for more information.
- *** For use in MIL-STD-1760 applications (pgs. 43 & 44).
- † For RG 180/U and RG 195/U cables only.
- †† Size 8 Coax and Twinax are interchangeable.
- Note: 25L-3 and 25L-7 require longer shells.

38999

III

HD

Dualok

II

I

SJT

Accessories

Aquacon

Herm/Seal

PCB

HIGH SPEED

Fiber Optics

Contacts
Connectors
Cables

EMI Filter
Transient

26482
Matrix 2

83723 III
Matrix | Pyle

26500
Pyle

5015
Crimp Rear
Release
Matrix

22992
Class I

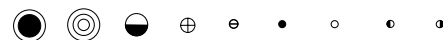
Back-
Shells

Options
Others

Front face of pin inserts illustrated

38999

III	Shell Size & Insert Arrg. for:														
HD															
Dualok	Series II JT8-28-38-68-358-448-978-98														
	Series I LJT9-39-69-79-229-359-449-98														
II	Series III TV7-D27-D37-D49-59-9 HD9-359-949-98														
I	Service RatingM M M M M Grounded M M N I M M M M I														
SJT	Number of Contacts2 3 4 2 3 1 6 7 9 2 6 4 2 2 2 3														
Accessories	Contact Size22D 22D 22D 20 20 8 Twinax 22M 22M 23 20 22D 22 20 22M 20 20														
Aquacon															
Herm/Seal															
PCB	Shell Size & Insert Arrg. for:														
HIGH SPEED	Series II JT10-410-510-1310-3510-9810-9912-3														
	Series I LJT11-211-411-511-611-1311-3511-9811-9913-3														
	Series III TV11-211-411-511-19 HD11-3511-5411-9811-99														
Fiber Optics	Service RatingI I I I M N M II I I II														
	Number of Contacts2 4 5 6 13 19 13 4 6 7 3														
Contacts Connectors Cables	Contact Size16 20 20 20 22M 23 22D 22D 20 20 16														
EMI Filter Transient	Shell Size & Insert Arrg. for:														
	Series II JT12-412-812-2212-3512-9814-414-5														
	Series I LJT13-413-813-2213-3513-9815-415-5														
26482 Matrix 2	Series III TV13-413-813-2613-32 HD13-3513-6313-9815-415-5														
	Service RatingI I M M N M I I I II														
	Number of Contacts4 8 22 6 2 32 22 2 2 10 4 5														
	Contact Size16 20 22M 22D 12 23 22D 16 12 20 12 16														
83723 III Matrix Pyle															
26500 Pyle	Shell Size & Insert Arrg. for:														
	Series II JT14-1514-1814-1914-3514-3714-6814-97														
	Series I LJT15-1515-1815-1915-3515-3715-6815-97														
	Series III TV15-1515-1815-1915-3515-55 HD15-97														
5015 Crimp Rear Release Matrix	Service RatingI I I M N I I														
	Number of Contacts14 1 18 19 37 37 55 8 8 4														
	Contact Size20 16 20 20 22D 22M 23 16 20 16														
22992 Class L															
Back-Shells	Shell Size & Insert Arrg. for:														
	Series II JT16-616-816-13														
	Series I LJT17-217-617-817-1317-2217-25														
	Series III TV17-217-617-8														
Options Others	Service RatingM I II I Coax M														
	Number of Contacts38 1 6 8 13 2 2 22 2														
	Contact Size22D 8 Twinax 12 16 16 12 Coax 8 Coax 22D 8 Coax														



HD: High Density HD38999 (use size 23 contacts only)

CONTACT LEGEND 8 10 12 16 20 22 22M 22D 23

MIL-DTL-38999, Series I LJT, II JT, III TV, HD

Insert Arrangements

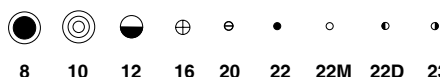
Front face of pin inserts illustrated

Shell Size & Insert Arrg. for:							
Series II JT	16-26	16-35	16-42	16-55			
Series I LJT	17-26	17-35	17-42	17-55			
Series III TV	17-26	17-35		17-52		17-60	17-73 HD
Service Rating	I	M	M	M	M	I/Coax	N
Number of Contacts	26	55	42	2	55	8 2	73
Contact Size	20	22D	22	8 Twinax	22M	22D 8 Coax	23

Shell Size & Insert Arrg. for:						
Series II JT	16-99	18-11			18-28	18-30
Series I LJT	17-99	19-11	19-18		19-28	19-30
Series III TV	17-99	19-11	19-18		18-28	
Service Rating	I	II	M	M		I
Number of Contacts	21 2	11	14 4		26 2	29 1
Contact Size	20 16	16	22D 8 Twinax		20 18	20 16

Shell Size & Insert Arrg. for:						
Series II JT		18-32	18-35	18-53	18-66	
Series I LJT		19-32	19-35	19-53	19-66	19-67
Series III TV	19-31	19-32	19-35			
Service Rating	M	1	M	M	M	M
Number of Contacts	2 1 12	32	66	53	66	67
Contact Size	8 Coax 12 22D	20	22D	22	22M	22M

Shell Size & Insert Arrg. for:						
Series II JT	18-68				20-1	20-2
Series I LJT	19-68				21-1	21-2
Series III TV		19-88 HD		19-AD		
Service Rating	I	N	I	Inst.	M	II
Number of Contacts	18	88	9	16 1	79	65
Contact Size	16	23	12	20 8 Twinax	22M	22



CONTACT LEGEND 8 10 12 16 20 22 22M 22D 23

HD: High Density HD38999
(use size 23 contacts only)

38999

III

HD

Dualok

II

I

SJT

Accessories

Aquacon

Herm/Seal

PCB

HIGH
SPEED

Fiber
Optics

Contacts
Connectors
Cables

EMI Filter
Transient

26482
Matrix 2

83723 III
Matrix I Pyle

26500
Pyle

5015
Crimp Rear
Release
Matrix

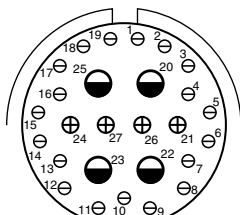
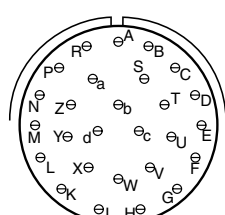
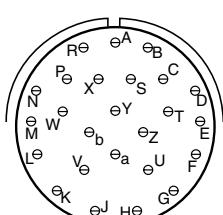
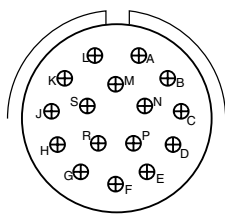
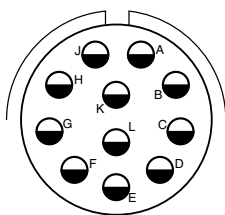
22992
Class I

Back-
Shells

Options
Others

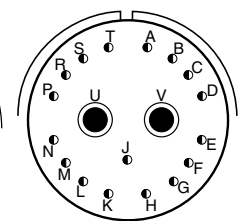
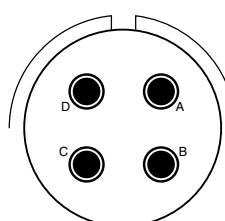
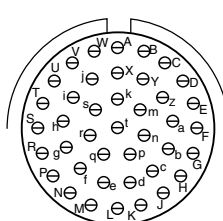
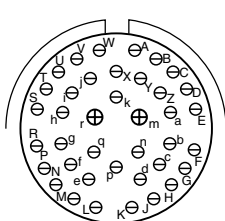
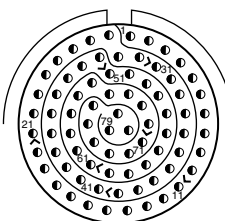
38999

Front face of pin inserts illustrated



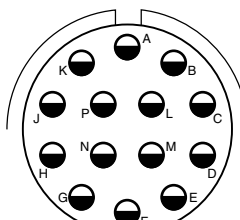
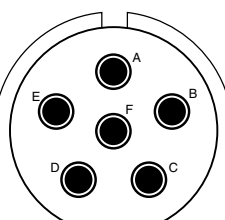
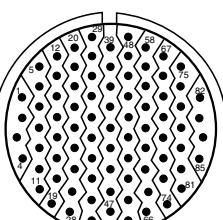
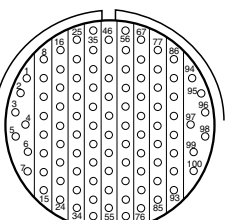
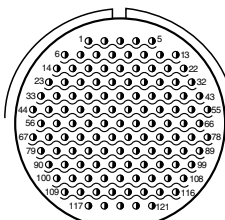
Shell Size &
Insert Arrg. for:

Series II JT	20-11	20-16			
Series I LJT	21-11	21-16	21-25	21-27	21-29
Series III TV	21-11	21-16			
Service Rating	I	II	I	I	I
Number of Contacts	11	16	25	27	19 4 4
Contact Size	12	16	20	20	20 16 12



Shell Size &
Insert Arrg. for:

Series II JT	20-35	20-39	20-41		
Series I LJT	21-35	21-39	21-41	21-75	21-79
Series III TV	21-35	21-39	21-41	21-75	21-79
Service Rating	M	1	I	N	II
Number of Contacts	79	37 2	41	4	17 (See Note)
Contact Size	22D	20 16	20	(See Note)	22D

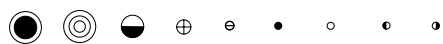


Shell Size &
Insert Arrg. for:

Series II JT	22-1	22-2		22-14
Series I LJT	23-1	23-2	23-6	23-14
Series III TV	21-121 HD		23-6	
Service Rating	N	M	M	I
Number of Contacts	121	100	85	14
Contact Size	23	22M	22	12

HD: High Density HD38999 (use size 23 contacts only)

Note: MS connector 21-75 is supplied with four size 8 twinax contacts.
Commercial connector 21-75 is supplied with four size 8 coax contacts.
MS connector 21-79 has provision for two size 8 coax contacts.
Coax contacts are not supplied unless specified by customers.

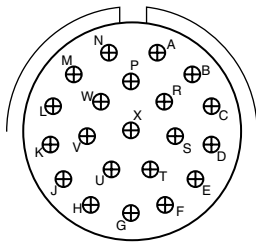


CONTACT LEGEND 8 10 12 16 20 22 22M 22D 23

MIL-DTL-38999, Series I LJT, II JT, III TV, HD

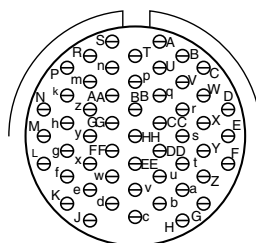
Insert Arrangements

Front face of pin inserts illustrated



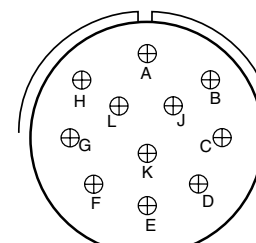
Shell Size &
Insert Arrg. for:

Series II JT	22-21	22-32	22-35
Series I LJT	23-21	23-32	23-34
Series III TV	23-21		23-35
Service Rating	II	I	M
Number of Contacts	21	32	100
Contact Size	16	20	22D



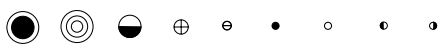
Shell Size &
Insert Arrg. for:

Series II JT	22-53	22-55	22-55	23-97
Series I LJT	23-53	23-55	23-55	
Series III TV	23-53	23-54	23-55	
Service Rating	I	M	I	II
Number of Contacts	53	40 9 4	55	16
Contact Size	20	22D 16 12	20	16



Shell Size &
Insert Arrg. for:

Series II JT	23-99	24-1	24-2
Series I LJT		25-1	25-2
Series III TV			
Service Rating	II	N	M
Number of Contacts	11	151	100
Contact Size	16	23	22



CONTACT LEGEND 8 10 12 16 20 22 22M 22D 23

HD: High Density HD38999
(use size 23 contacts only)

38999

III

HD

Dualok

II

I

SJT

Accessories

Aquacon

Herm/Seal

PCB

HIGH
SPEED

Fiber
Optics

Contacts
Connectors
Cables

EMI Filter
Transient

26482
Matrix 2

83723 III
Matrix I Pyle

26500
Pyle

5015
Crimp Rear
Release
Matrix

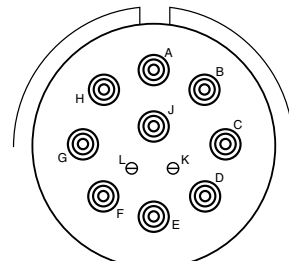
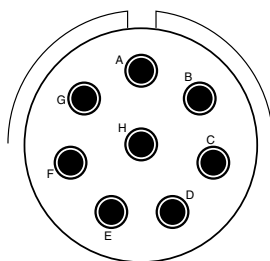
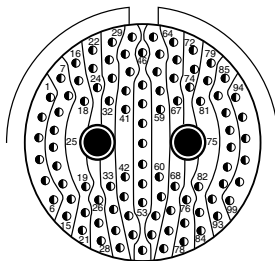
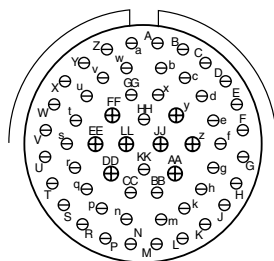
22992
Class I

Back-
Shells

Options
Others

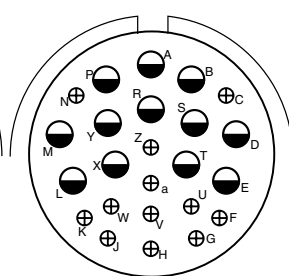
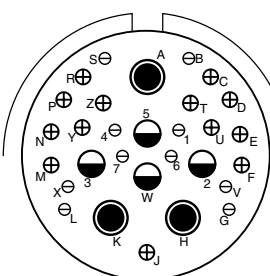
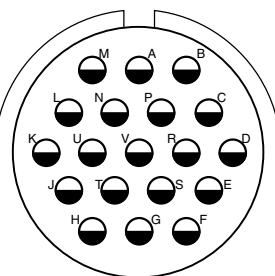
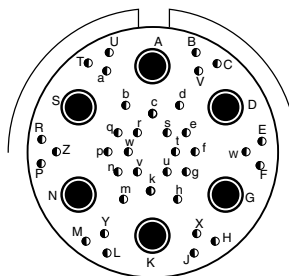
38999

Front face of pin inserts illustrated



Shell Size &
Insert Arrg. for:

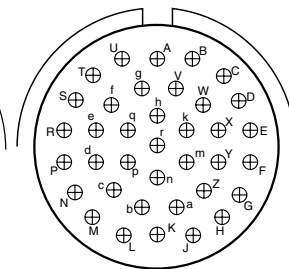
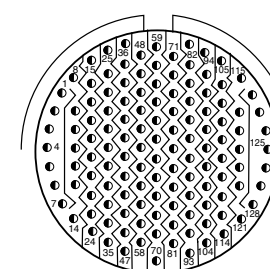
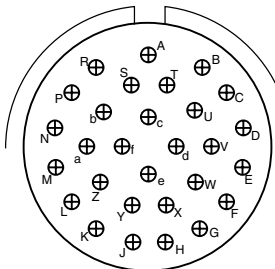
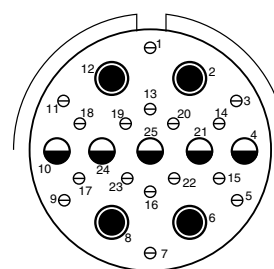
Series II JT	24-4		25-7		25-8		25-11	
Series I LJT	25-4		25-7		25-8		25-11***	
Series III TV	25-4		25-7		25-8		25-11***	
Service Rating	I		M		Twinax		N	
Number of Contacts	48	8	97	2	8		2	9
Contact Size	20	16	22D	8 Twinax	8 Twinax		20	10



Shell Size &
Insert Arrg. for:

Series II JT	24-19		25-20		24-24	
Series I LJT	25-19		25-20		25-24	
Series III TV	25-17		25-19		25-20***	
Service Rating	M		I		N	
Number of Contacts	36	6	19	10 13	3 4	12 12
Contact Size	22D	8 Twinax	12	20 16	8 Twinax 12 Coax	16 12

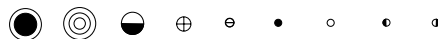
(With Matched Impedance)



Shell Size &
Insert Arrg. for:

Series II JT	24-29		25-35		24-37	
Series I LJT	25-29		25-35		25-37	
Series III TV	25-26		25-29		25-35	
Service Rating	I		M		I	
Number of Contacts	16	5 4	29	128	37	
Contact Size	20	12 8 Coax	16	22D	16	

*** For use in MIL-STD-1760 applications (see pages 43 and 44).

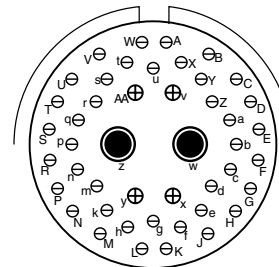
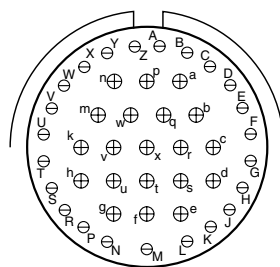
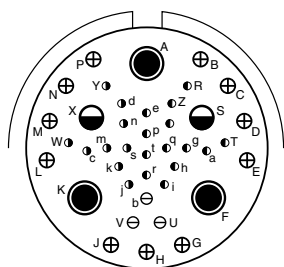


CONTACT LEGEND 8 10 12 16 20 22 22M 22D 23

MIL-DTL-38999, Series I LJT, II JT, III TV, HD

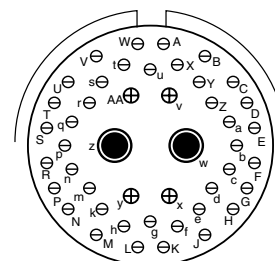
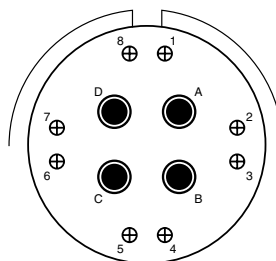
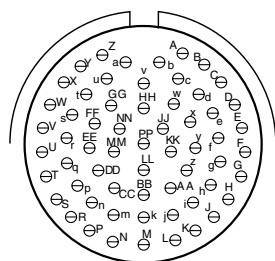
Insert Arrangements

Front face of pin inserts illustrated



Shell Size &
Insert Arrg. for:

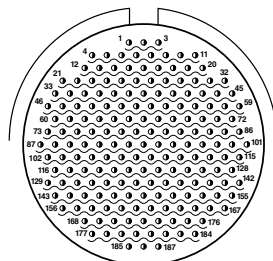
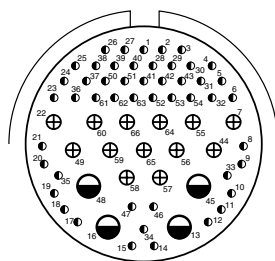
Series II JT	25-43		
Series I LJT	25-43		
Series III TV	25-46		
Service Rating	N/Inst.		
Number of Contacts	22	3	11
Contact Size	22D	20	16



Shell Size &
Insert Arrg. for:

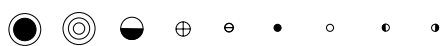
Series II JT	24-61		
Series I LJT	25-61		
Series III TV	25-61		
Service Rating	I		
Number of Contacts	61	8	4
Contact Size	20	16	8

Ground Plane
Only



Shell Size &
Insert Arrg. for:

Series II JT	25-F4		
Series I LJT	25-187 HD		
Series III TV	25-187 HD		
Service Rating	Size 22D=M, Balance =I		
Number of Contacts	49	13	4
Contact Size	22D	16	12



CONTACT LEGEND 8 10 12 16 20 22 22M 22D 23

† Coax contacts for RG180/U or RG195/U cable.

HD: High Density HD38999
(use size 23 contacts only)

38999

III

HD

Dualok

II

I

SJT

Accessories

Aquacon

Herm/Seal

PCB

HIGH
SPEED

Fiber
Optics

Contacts
Connectors
Cables

EMI Filter
Transient

26482
Matrix 2

83723 III
Matrix | Pyle

26500
Pyle

5015
Crimp Rear
Release
Matrix

22992
Class I

Back-
Shells

Options
Others

38999

III

HD

Dualok

II

I

SJT

Accessories

Aquacon

Herm/Seal

PCB

HIGH
SPEED

Fiber
Optics

Contacts
Connectors
Cables

EMI Filter
Transient

26482
Matrix 2

83723 III
Matrix | Pyle

26500
Pyle

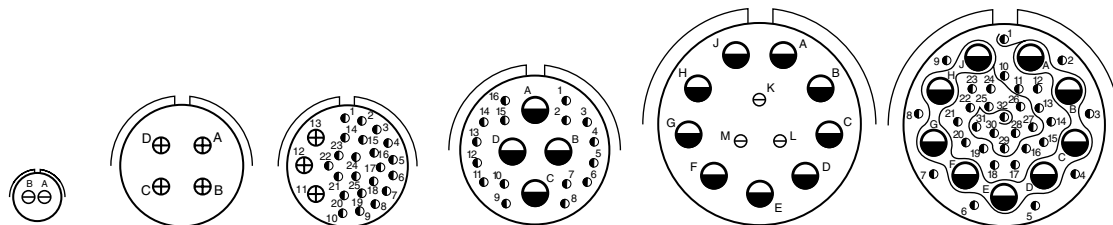
5015
Crimp Rear
Release
Matrix

22992
Class I

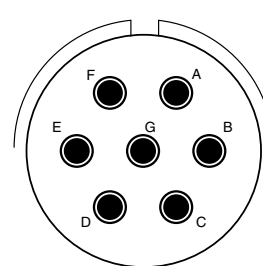
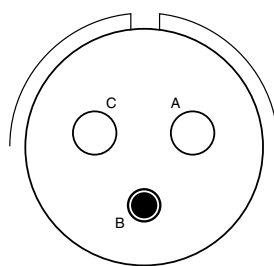
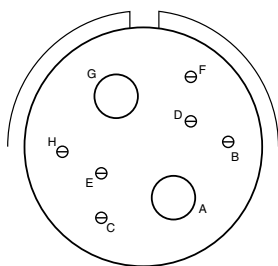
Back-
Shells

Options
Others

Front face of pin inserts illustrated

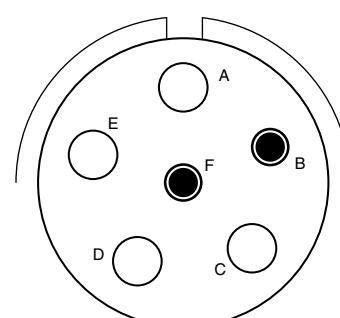
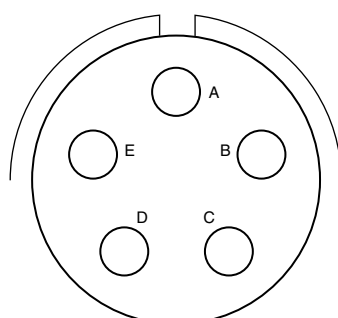
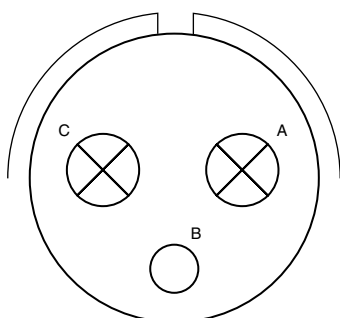


Front face of pin inserts illustrated



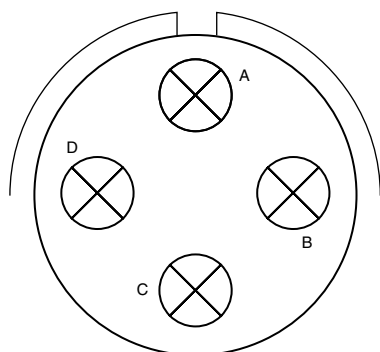
Shell Size &
Insert Arrg. for:

Series III TV	25-16	25L-3	25L-7
Service Rating	M	II	II
Number of Contacts	6 2	1 2	7
Contact Size	20 4	8 4	8



Shell Size &
Insert Arrg. for:

Series III TV	33-3	33-5	33-6
Service Rating	II	II	II
Number of Contacts	1 2	5	2 4
Contact Size	4 0	4	8 4



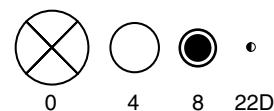
Shell Size &
Insert Arrg. for:

Series III TV	37-5
Service Rating	II
Number of Contacts	4
Contact Size	0

NOTE: Some specials shown here were formerly known as Pyle arrangements. Consult Amphenol for how to order information for connectors with these inserts.

Consult Amphenol Aerospace for longer shell drawings.

CONTACT LEGEND



38999

III

HD

Dualok

II

I

SJT

Accessories

Aquacon

Herm/Seal

PCB

**HIGH
SPEED**

Fiber
Optics

Contacts
Connectors
Cables

EMI Filter
Transient

26482
Matrix 2

83723 III
Matrix | Pyle

26500
Pyle

5015
Crimp Rear
Release
Matrix

22992
Class I

Back-
Shells

Options
Others

38999

CONTACT RATING FOR TV III, HD, JT II, LJT I, SJT

Contact Size	Test Current (Amps)		Maximum Millivolt Drop Crimp*	Maximum Millivolt Drop		Contact Size	Crimp Well Data		Solder Well Data	
	Crimp	Hermetic		Solder*	Hermetic*		Well Diameter	Normal Well Depth	Well Diameter	Nominal Well Depth
23	5	3	73	20	85	23	.0345 ± .0010	.141	.0345 ± .0010	.130
22M	3	2	45	20	60	22M	.028 ± .001	.141	.029 +.004 -.000	
22D	5	3	73		85	22D	.0345 ± .0010	.141	.036 +.004 -.000	.094
22	5	3	73	20	85	22	.0365 ± .0010	.141	.036 +.004 -.000	.094
20	7.5	5	55	20	60	20	.047 ± .001	.209	.044 +.004 -.004	.125
16	13	10	49	20	85	16	.067 ± .001	.209	.078 +.000 -.004	.141
12	23	17	42	20	85	12	.100 ± .002	.209	.116 +.004 -.002	.141
10 (Power)	33	NA	33	NA	NA	10 (Power)	.137 ± .002	.355	NA	NA
8 (Power)	46	NA	26	NA	NA	8	.181 ± .002	.490	NA	NA
4	80	NA	23	NA	NA	4	.281 ± .002	.490	NA	NA
0	150	NA	21	NA	NA	0	.453 ± .002	.585	NA	NA

*When tested using silver plated wire.

SERVICE RATING**

Service Rating	Suggested Oper. Voltage (Sea Level)		Test Voltage (Sea Level)	Test Voltage 50,000 Ft.	Test Voltage 70,000 Ft.	Test Voltage 110,000 Ft.
	AC (RMS)	DC				
M	400	500	1300 VRMS	550 VRMS	350 VRMS	200 VRMS
N	300	450	1000 VRMS	400 VRMS	260 VRMS	200 VRMS
I	600	850	1800 VRMS	600 VRMS	400 VRMS	200 VRMS
II	900	1250	2300 VRMS	800 VRMS	500 VRMS	200 VRMS

**Please note that the establishment of electrical safety factors is left entirely in the designer's hands, since he is in the best position to know what peak voltage, switching surges, transients, etc. can be expected in a particular circuit.

MIL-DTL-38999 Series III STANDARD 500 CYCLE CONTACTS FOR TV AND CTV, P & S

Contact Size	TV/CTV Pins		TV/CTV Sockets	
	Military No.	Supersedes	Military No.	Supersedes
8 (Coax)*	M39029/60-367	MS27536	M39029/59-366	MS27535
8 (Power)	Contact Factory	"	"	"
8 (Twinax)	M39029/90-529**	N/A	M39029/91-530	N/A
10 (Power)	M39029/58-528	N/A	M39029/56-527	N/A
12	M39029/58-365	MS27493-12	M39029/56-353	MS27490-12
16	M39029/58-364	MS27493-16	M39029/56-352	MS27490-16
20	M39029/58-363	MS27493-20	M39029/56-351	MS27490-20
22D	M39029/58-360	MS27493-22D	M39029/56-348	MS27490-22D
4	N/A	N/A	N/A	N/A
0	N/A	N/A	N/A	N/A

Above part numbers include standard 500 cycle finish designation - gold plating over suitable underplate in accordance with SAE AS39029. For other finish variations, consult Amphenol Aerospace.

*For use with RG180B/U and RG195A/U cable. For other size 8 coax or optional sizes 12 and 16 coax contacts available for use in Tri-Start connectors, see High Speed Contact section in this catalog or consult Amphenol Aerospace.

MIL-DTL-38999 Series III SEALING PLUGS

Contact Size	Commercial No.	Military No.
8 (Coax)	10-482099-8	N/A
8 (Twinax)	T3-4008-59P	N/A
8 (Power)	10-405996-83	MS27488-8-3
10 (Power)	T3-4010-59P	M85049/81-10
12	10-405996-122	MS27488-12-2
16	10-405996-162	MS27488-16-2
20	10-405996-202	MS27488-20-2
22D	10-405996-222	MS27488-22-2
4	10-405996-43	MS27488-4-3
0	10-405996-03	MS27488-0-3

** For use with M17/M176-00002 cable.

† Optional design - see slash sheet MS39029.

For other contact options available for use in Tri-Start connectors (wire wrap, thermocouple, fiber optic), consult Amphenol.

MIL-DTL-38999 Series III 1500 CYCLE CONTACTS FOR CTV, CLASSES H & J

Contact Size	CTV Pins			CTV Sockets		
	Commercial No.	Military No.	Supersedes	Commercial No.	Military No.	Supersedes
12	10-597072-2X	M39029/107-623	-	10-597073-2X	M39029/106-617	-
16	10-597068-2X	M39029/107-622	-	10-597069-2X	M39029/106-616	-
20	10-597064-2X	M39029/107-621	-	10-597065-2X	M39029/106-615	-
22D	10-597058-3X	M39029/107-620	-	10-597061-2X	M39029/106-614	-

MIL-DTL-38999 Series II JT/ Series I LJT/SJT Series CRIMP CONTACTS

Contact Size	JT/LJT/SJT Pins MS No.	JT Socket MS No.	LJT/SJT Sockets MS No.	Contact Size	JT/LJT Pins MS No.	JT Socket MS No.	LJT/SJT Sockets MS No.
8 (Coax)*	M39029/60-367	NA	M39029/59-366	20	M39029/58-363	M39029/57-357	M39029/56-351
8 (Twinax)	M39029/90-529**	NA	M39029/91-530	22	M39029/58-362	M39029/57-356	M39029/56-350
10 (Power)	M39029/58-528	NA	M39029/56-527	22M	M39029/58-361	M39029/57-355	M39029/56-349
12	M39029/58-365	M39029/57-359	M39029/56-353	22D	M39029/58-360	M39029/57-354	M39029/56-348
16	M39029/58-364	M39029/57-358	M39029/56-352				

MIL-DTL-38999, Series I LJT, II JT, III TV

Thermocouple Contacts/Sealing Plugs/Finishing Data

THERMOCOUPLE CONTACTS Series II JT/ I LJT

Contact Size	Material	JT/LJT Pins	JT Sockets	LJT Sockets
20	Chromel	10-407862-310	10-407863-310	10-407236-310
	Alumel	10-407862-320	10-407863-320	10-407865-320
	Iron	10-407862-335	10-407863-335	10-407865-335
	Constantan	10-407862-342	10-407863-342	10-407865-342

Partial Listing. If you do not see the contact for your application, consult Amphenol Aerospace.

THERMOCOUPLE CONTACTS PYLE VERSION Series II JT/ I LJT

Contact Size	Pins (II JT/ I LJT)		Sockets (LJT)		Material
	Spec Number	Pyle Number	Spec Number	Pyle Number	
22D	M39029/87-472	T3-4022-10P	M39029/88-484	T3-4122-10P	CHROMEL
22D	M39029/87-471	T3-4022-10R	M39029/88-483	T3-4122-10R	ALUMEL
20	M39029/87-476	T3-4020-10P	M39029/88-488	TS-4120-10P	CHROMEL
20	M39029/87-475	T3-4020-10R	M39029/88-487	T3-4120-10R	ALUMEL
16	M39029/87-480	T3-4016-10P	M39029/88-492	T3-4116-10P	CHROMEL
16	M39029/87-479	T3-4016-10R	M39029/88-491	T3-4116-10R	ALUMEL

Above part numbers include standard finish designation - gold plating over suitable underplate in accordance with MIL-DTL-39029. For other finishes, consult Amphenol Aerospace. Note: 22M and 22D contacts are interchangeable. *For use with RG180B/U and RG195A/U cable. For other size 8 coax or optional sizes 12 and 18 coax contacts available for use in JT/LJT connectors, see High Speed Contacts section of this catalog.** For use with 17/M176-00002 cable.

SEALING PLUGS Series II JT/ I LJT

Contact Size	Commercial No.	Military No.
8 (Coax)	10-482099-8	MS27488-8
8 (Twinax)	T3-4008-59P	N/A
10 (Power)	10-576225	N/A
12	10-405996-122	MS27488-12-2
16	10-405996-162	MS27488-16-2
20	10-405996-202	MS27488-20-2
22	10-405996-222	MS27488-22-2
22M	10-405996-222	MS27488-22-2
22D	10-405996-222	MS27488-22-2

SEALING PLUGS SJT

Contact Size	Commercial No.
8 (Coax)	10-482099-8
8 (Twinax)	10-482099-8
10 (Power)	NA
12	10-405996-012 Yellow
16	10-405996-016 Blue
20	10-405996-020 Red
22	10-405996-022 Black
22M	10-405996-022 Black
22D	10-405996-022 Black

FINISH DATA MIL-DTL-38999, Tri-Start Series III TV

Aluminum Shell Components Non-Hermetic		
Finish	Service Class	
	Military	Commercial
Anodic Coating (Non-Conductive)	C	RX**
Electroless Nickel	F (Metal)	RF
	M (Composite)	
Olive Drab Cadmium Plate Nickel Base	W (Metal)	RW
	J (Composite)	
Stainless Steel with Nickel Plate (non-firewall)	L	
Stainless Steel with Nickel Plate (firewall)	S	RS
Stainless Steel	K	RK
Durmalon plated	T	DT
Zinc-Nickel Plated	Z	DZ

Hermetic Shell Components		
Material/Finish	Service Class	
	Military	Commercial
Stainless Steel	Y	Y
Stainless Steel with Nickel Plate	N	YN

**Add Suffix (005) to part number.

FINISH DATA MIL-DTL-38999, Series I LJT, II JT

Aluminum Shell Components Non-Hermetic					
Finish	Suffix		Finish Plus "SR" Suffix	Indicated Finish Standard for JT Types Listed Below	Indicated Finish Standard for LJT Types Listed Below
	Military	Commercial			
Cadmium Plated Nickel Base	MS (A)	-	(SR)	JT/JTG/JTL/JTP	LJT/LJTP
Anodic Coating (Alumilite)	MS (C)	(005)	(300)	JTS/JTPS/JTLS	LJTPS/LJTS
Chromate Treated (Iridite 14-2)		(011)	(344)	JTN/JTPN/JTLN	LJTN/LJTPN
Olive Drab Cadmium Plate Nickel Base	MS (B)	(014)	(386)		
Electroless Nickel	MS (F)	(023)	(424)		
Nickel-PTFE Durmalon		(038)			

Hermetic Connectors				
Finish	Suffix		Indicated Finish Standard for JT Types Listed Below	Indicated Finish Standard for LJT Types Listed Below
	Military	Commercial		
Carbon Steel Shell			JT()H / JT()Y	LJT()Y
Tin Plated Shell and Contacts			JTL()H / JTL()Y	LJT()H
Carbon Steel Shell Tin Plated Shell and Gold Plated Contacts	MS (D)			
Stainless Steel Shell Gold Plated Contacts	MS (E)	(162)	JTS()Y JTLS()Y	LJTS()Y

38999

III

HD

Dualok

II

I

SJT

Accessories

Aquacon

Herm/Seal

PCB

HIGH
SPEED

Fiber
Optics

Contacts
Connectors
Cables

EMI Filter
Transient

26482
Matrix 2

83723 III
Matrix I Pyle

26500
Pyle

5015
Crimp Rear
Release
Matrix

22992
Class I

Back-
Shells

Options
Others

Amphenol MIL-DTL-38999, Series III, TV



**New
Featured**



Other New 38999

Dualok™
see page 55

HD38999
see page 46



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MIL-DTL-38999, Series III TV

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Shell Styles:

• Crimp Wall Mounting Receptacle TVP00R (D38999/20) /CTVP00R (D38999/20)	29
• Crimp Box Mounting Receptacle TVP02R / CTVP02R	30
• Crimp Straight Plug TV06R (D38999/26) / CTV06R (D38999/26)	31
• Crimp CLUTCH-LOK™ Straight Plug for High Vibration TV26/MTV26	32
• Crimp Jam Nut Receptacle TV07R (D38999/24) / CTV07R (D38999/24)	33
• Crimp Line Receptacle TV01R / CTV01R	34
• Crimp Flange Mounting Plug TV09R	35
• Hermetic Box Mounting Receptacle TVPS02Y (D38999/21)	36
• Hermetic Jam Nut Receptacle TVS07Y (D38999/23)	37
• Hermetic Solder Mounting Receptacle TVSIY (D38999/25), Hermetic Weld Mounting Receptacle TVSHIY (D38999/27)	38
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MIL-DTL-38999 Series III Typical Markets:

- Military & Commercial Aviation
- Military Vehicles
- Missiles & Ordnance
- C4ISR
- Space Applications

Amphenol
Aerospace



Tri-Start™ MIL-DTL-38999 Series III with Metal Shells - Aluminum, Stainless Steel, Class K Firewall
Amphenol® Tri-Start MIL-DTL-38999* Series III Connectors offer the highest performance capabilities for both general duty and severe environment applications. Meeting or exceeding MIL-DTL-38999 Series III requirements, the Tri-Start connector with standard metal shells (aluminum or stainless steel with several finish options) offers these features:

- **EMI Shielding** - solid metal-to-metal coupling, grounding fingers, electroless nickel plating, and thicker wall sections provide superior EMI shielding capability of 65dB minimum at 10 GHz
- **Contact Protection** - recessed pins in this 100% scoop-proof connector minimize potential contact damage
- **Moisture Resistance** - improved interfacial seal design helps prevent electrolytic erosion of contacts
- **Corrosion Resistance** - shells of stainless steel or cadmium over nickel plating withstand a 500 hour salt spray exposure
- **Vibration/Shock** - operates under severe high temperature vibration, through 200°C
- **Firewall Capability** - available in a stainless steel shell, class RK, RS
- **Lockwiring Eliminated** - unique, self-locking, quick coupling connector eliminates lockwiring
- **Quick Coupling** - completely mates and self-locks in a 360° turn of the coupling nut
- **Inventory Support Commonality** - uses standard MIL-DTL-38999 contacts, application tools, insert arrangements
- **Electrostatic Discharge Protection (ESD)** - protection for sensitive circuitry without diodes, varistors, etc., with the use of the Faraday Cage principle which shunts high voltage, high current discharge events (see page 331)
- **Hermetic**- air leakage limited to $1 \times 10^{-7} \text{ cm}^3$ per second optional
- **Qualified Specifications** - Stainless Steel qualified to BACC63DB and BACC63DC specifications

Optional Shell Geometries

Amphenol offers a number of different shell configurations to fit your needs.

- Deep Reach Shells - For increased panel thickness
- Stand-off Flange Shells - For attachments to Printed Circuit Boards.
- Connector with Integral Strain Reliefs

* MIL-DTL-38999 Series III supersedes MIL-C-38999 Series III.

Applicable Patents:

Tri-Start™ Connector Patent 4,109,990.

Composite Connector Patents:

4,268,103; 4,648,670; 4,682,832; 4,703,987.

Clutch-Lok® Patent 6,152,753.



Series III Composite Tri-Start, Qualified to MIL-DTL-38999, Rev. J

MIL-Qualified to MIL-DTL-38999, Rev. K, the Amphenol® Composite Tri-Start Connector offers a lightweight, corrosion resistant connector with the same high performance features as its metal counterpart. The Composite Tri-Start Connector also includes the following features:

- **Lightweight** - 17% – 70% weight savings (17–40% weight savings vs. Aluminum) (60–70% weight savings vs. Stainless steel) See Composite weight comparison chart on page 23.
- **Corrosion Resistance** - available in standard MIL-DTL-38999 olive drab cadmium (-65°C to 175°C) and electroless nickel plating (-65°C to 200°C), both withstanding 2000 hours of salt spray exposure. The base material is able to withstand an indefinite exposure to salt spray.
- **Durability** - 1500 couplings minimum (in reference to connector couplings, not contacts)
- **Extended Life Contact** - Mil-approved plating process which provides 1500 couplings minimum
- Qualified to BACC63CT and BACC63CU specifications



CLUTCH-LOK™ MIL-DTL-38999 Series III High Vibration Connector

The Tri-Start option CLUTCH-LOK offers all advantages of stainless steel/Class K firewall for MIL-DTL-38999 Series III connectors, plus a unique clutch design that actually tightens itself under vibration. Features include:

- High degree of differential torque
- No settling back to the next ratchet tooth
- Completely intermateable with all existing MIL-DTL-38999 Series III connectors
- Offers advantage in inaccessible, hard to reach areas where mating torque is difficult to apply and complete coupling is not verifiable by inspection

See page 32 for description,
25 – 27 for ordering.

38999

III
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Dualok
II
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SJT
Accessories
Aquacon
Herm/Seal
PCB

HIGH SPEED

Fiber Optics
Contacts
Connectors
Cables

EMI Filter Transient

26482
Matrix 2
83723 III
Matrix Pyle

26500
Pyle

5015
Crimp Rear Release Matrix

22992
Class I

Back-Shells

Options
Others

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Dualok

II

I

SJT

Accessories

Aquacon

Herm/Seal

PCB

HIGH SPEED

Fiber Optics

Contacts
Connectors
Cables

EMI Filter
Transient

26482
Matrix 2

83723 III
Matrix | Pyle

26500
Pyle

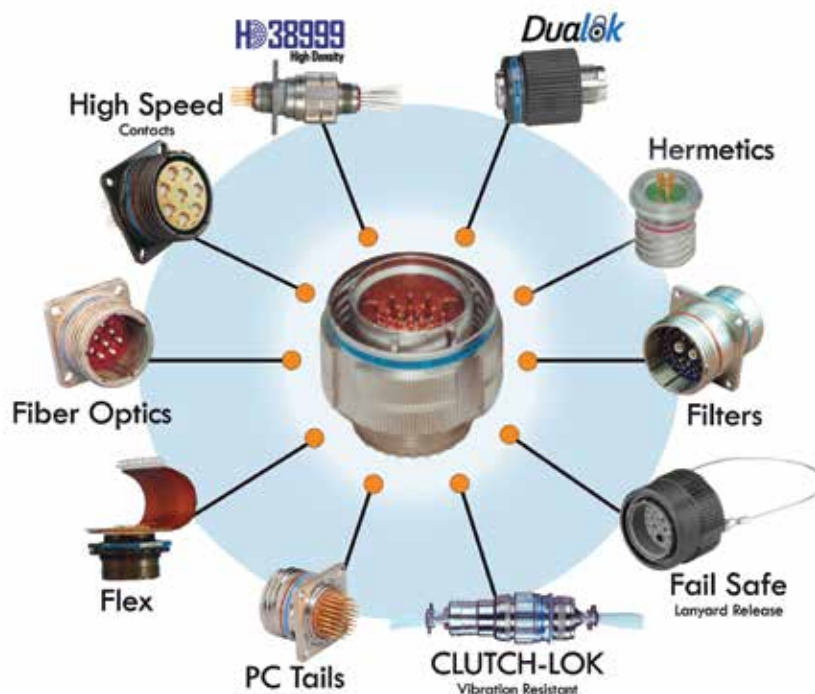
5015
Crimp Rear
Release
Matrix

22992
Class I

Back-
Shells

Options
Others

Series III, TV Tri-Start Connectors, offer more versatility & options than any other interconnection family!



High reliability and increased versatility best describe Amphenol MIL-DTL-38999, Series III circular connectors. Originally designed for the harshest of environments and most demanding of applications, Amphenol MIL-DTL-38999 Series III, Tri-Start connectors continue to evolve in pace with the needs of an ever-changing market.

Amphenol Tri-Start connectors can be configured with a number of application specific technologies like High Density HD38999, Dualok, Filters, Hermetics, PC Tails, Fiber Optics, Flex, CLUTCH-LOK, Fail Safe, and contacts. Flexibility aids in design optimization through the combination of different technologies within a common, time-tested, harsh environment connector body.

For more information about options, please call 800-678-0141 or visit www.amphenol-aerospace.com.

Performance

Designed for Performance

Numerous advantages in performance capability are designed into the Amphenol Tri-Start Connector. A positive metal to metal coupling design, grounding fingers, and electroless nickel plating provide superior EMI shielding capability of 65 dB minimum at 10 GHz.

Acme threads provide coupling durability. Thicker wall sections and a greater coupling surface area improve strength and shock resistance. Blunting of the thread on both the coupling nut and receptacle eliminates cross coupling. The connector quickly mates and self locks in a 360° turn of the coupling nut.

Elongated mounting holes permit the Tri-Start Connector to intermount with various existing MIL-Spec box or wall mount receptacles, giving it a design replacement advantage.

Shells of stainless steel or cadmium over nickel plating prevent severe corrosion. Resistance is tested through exposure to a 500 hour salt spray. Composite versions provide protection from salt spray exposure for 2000 hours. Other finish options are available; see how to order Tri-Start metal and Tri-Start Composite.

Recessed pins minimize potential contact damage in this 100% scoop-proof connector. In a blind mating application, mating shells cannot "scoop" the pins and cause a shorting or bending of contacts.

The design of the Amphenol Tri-Start interfacial seal meets the MIL-DTL-38999 Series III requirements for electrolytic erosion resistance.

A rigid dielectric insert with excellent electrical characteristics provides durable protection to the contacts. The socket contacts are probe proof, and all contacts are rear removable. They are plated in the standard 50 micro inches minimum gold, with 100 micro inches as an option, and are available in standard Tri-Start insert arrangements and special Pyle® insert arrangements in sizes 10 power, 12, 16, 20 and 22D contacts. Special insert patterns are also available with larger contacts in sizes 4 and 0.

MIL-DTL-38999, Series III TV

Weight Comparisons (Composite vs. Metal)

Depending on the shell style, shell size and contact count, weight savings can range from 17% to 40% compared to standard aluminum product.

Tri-Start Weight in Ounces (includes contacts)

Weight

	Wall Mount Receptacle (00 • Military D38999/20)						Jam Nut Receptacle (07) • Military D38999/24						Plug (06) • Military D38999/26					
	Stainless Steel		Aluminum		Composite		Stainless Steel		Aluminum		Composite		Stainless Steel		Aluminum		Composite	
	Pin	Socket	Pin	Socket	Pin	Socket	Pin	Socket	Pin	Socket	Pin	Socket	Pin	Socket	Pin	Socket	Pin	Socket
9-35	.7216	.7840	.3248	.3777	.2588	.3121	1.1472	1.2096	.4416	.5040	.3489	.4413	1.0736	1.1360	.4236	.4625	.2606	.2994
9-98	.7216	.7776	.2496	.3056	.1664	.2224	1.1472	1.2032	.4416	.4976	.3744	.4640	1.0736	1.1296	.3968	.4624	.2991	.2337
11-35	.9488	1.0800	.3632	.4960	.2753	.4081	1.4304	1.5632	.5936	.7264	.4679	.6007	1.2480	1.3808	.5312	.6389	.3450	.4582
11-98	.9488	1.0620	.3632	.4768	.2753	.3889	1.4304	1.5440	.5936	.7072	.4679	.5815	1.2480	1.3616	.5330	.6283	.3468	.4457
13-8	1.2096	1.3888	.4800	.6592	.3696	.5488	1.9104	2.0896	.7664	.9456	.6560	.8352	1.8048	1.9840	.7936	.9728	.5237	.5952
13-35	1.2160	1.4320	.4864	.7024	.3762	.5922	1.9168	2.1328	.7728	.9888	.6136	.8296	1.8112	2.0272	.8000	.8472	.5301	.6531
13-98	1.2160	1.4016	.4864	.6720	.3762	.5618	1.9168	2.1024	.7728	.9584	.6136	.7992	1.8112	1.9968	.7978	.9856	.5244	.7157
15-5	1.5312	1.7904	.6352	.8944	.5027	.7619	2.3792	2.6384	.9728	1.2320	.7749	1.0341	2.2704	2.5456	.9632	1.1719	.6450	.8467
15-18	1.5456	1.8416	.7760	.9456	.6432	.8128	2.3936	2.6896	.9872	1.2832	.8544	1.1504	2.2848	2.5808	.9776	1.2736	.6594	.8208
15-35	1.5424	1.8768	.6464	.9808	.5139	.8483	2.3904	2.7344	.9840	1.3280	.7861	1.1301	2.2816	2.6256	1.2179	1.3184	.8961	1.0002
17-6	2.1488	2.5904	.9360	1.3776	.7812	1.2228	2.9152	3.3568	1.2336	1.6752	.9940	1.4356	2.5008	3.1024	1.1408	1.7424	.8160	1.4176
17-26	2.1344	2.5600	.9216	1.3472	.7668	1.1924	2.9008	3.3264	1.2192	1.6448	.9796	1.4052	2.4864	2.9120	1.1264	1.3343	.8017	.8062
17-35	2.1360	2.6640	.9232	1.4512	.7684	1.2964	2.9024	3.4304	1.2208	1.7488	.9812	1.5092	2.4880	3.0160	1.1280	1.5497	.8033	1.2144
19-11	2.2592	2.6656	.9696	1.4528	.7925	1.2757	3.4352	3.9184	1.4720	1.9552	1.2033	1.6865	2.9808	3.4640	1.3472	1.8304	.9632	1.4464
19-32	2.1888	2.7264	.9760	1.5136	.7989	1.3365	3.4416	3.9792	1.4784	2.0160	1.2097	1.7473	2.9872	3.5248	1.3536	1.8912	.9696	1.5072
19-35	2.1920	2.8432	.9792	1.6304	.8021	1.4533	3.4448	4.0960	1.4816	2.1328	1.2129	1.8641	2.9904	3.6416	1.3568	2.0080	.9728	1.6240
21-11	2.7456	3.4640	1.3088	2.0272	1.1088	1.8272	3.9712	4.6896	1.8128	2.5312	1.6128	2.3312	3.4448	4.1632	1.7344	2.5312	1.3039	1.8710
21-16	2.6784	3.3168	1.2416	1.8800	1.0422	1.6806	3.9040	4.5424	1.7456	2.3840	1.4505	2.0889	3.3776	4.0160	1.6672	2.3168	1.2352	1.8736
21-35	2.6672	3.4992	1.2304	2.0624	1.0310	1.8630	3.8928	4.7248	1.7344	2.5664	1.4393	2.2713	3.3664	4.1984	1.6560	2.2309	1.2255	1.8003
21-41	2.6768	3.3600	1.2400	1.9232	1.0406	1.7238	3.9024	4.5856	1.7440	2.4272	1.4489	2.1321	3.3760	3.5792	1.6656	1.8688	1.2336	1.4368
23-21	3.0352	3.8624	1.4496	2.2768	1.2279	2.0551	4.2368	5.0640	1.9440	2.7712	1.6368	2.4640	3.7920	4.6192	1.9216	2.7488	1.4637	2.2896
23-35	3.0240	4.0448	1.4384	2.4592	1.2167	2.2375	4.2256	5.2464	1.9328	2.9536	1.6256	2.6464	3.7808	4.8016	1.9104	2.6087	1.4525	2.1507
23-53	2.8992	3.9072	1.4560	2.4816	1.2343	2.2599	4.2432	5.1088	1.9504	2.8160	1.6432	2.5088	3.7984	4.6640	1.9280	2.7936	1.4672	2.2384
25-4	3.4512	4.4800	1.7312	2.8816	1.4864	2.1904	4.8048	5.8272	2.2016	3.2480	1.9568	2.8720	4.2224	5.2496	2.2128	3.2560	1.7133	2.4163
25-19	3.5312	4.7264	1.8112	3.0064	1.5664	2.7616	4.8848	6.0816	2.2816	3.4784	2.0368	3.2336	4.3024	5.4992	2.2928	3.4896	1.7933	2.7058
25-20	3.8190	4.7150	2.0173	3.1125	1.7733	2.8512	5.1430	6.0380	2.4877	3.5421	2.1872	3.2416	4.4350	5.3300	2.2580	3.0182	1.8288	2.8928
25-35	3.4416	4.6656	1.7216	2.9456	1.4776	2.7016	4.7952	6.0192	2.1920	3.4160	1.8915	3.1155	4.2128	5.4368	2.2032	3.4272	1.7037	2.9277
25-61	3.4304	4.4848	1.7282	2.7648	1.4841	2.5208	4.7840	5.8384	2.1808	3.2352	1.8803	2.9347	4.2016	5.2560	2.1920	3.2464	1.6912	2.7456

All weight measurements are for reference only.

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Aquacon

Herm/Seal

PCB

HIGH SPEED

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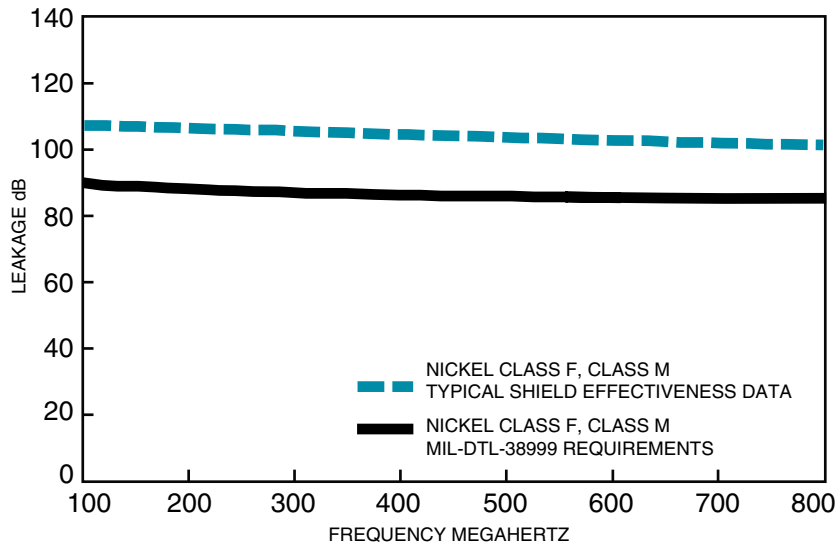
22992
Class I

Back-
Shells

Options
Others

TRI-START, SERIES III TYPICAL SHIELDING EFFECTIVENESS TEST DATA

EMI/EMP SHIELDING EFFECTIVENESS dB
TESTING BY TRIAXIAL METHOD

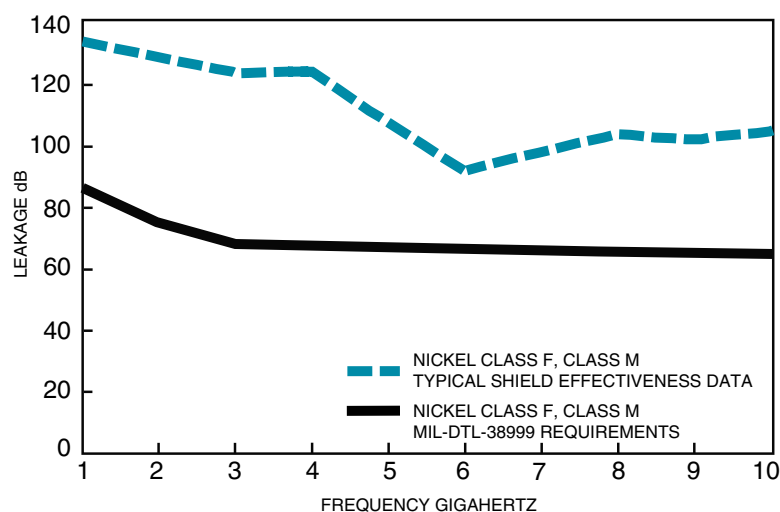


Amphenol® Tri-Start connectors provide EMI/EMP shielding capability which exceeds MIL-DTL-38999 Series III requirements.

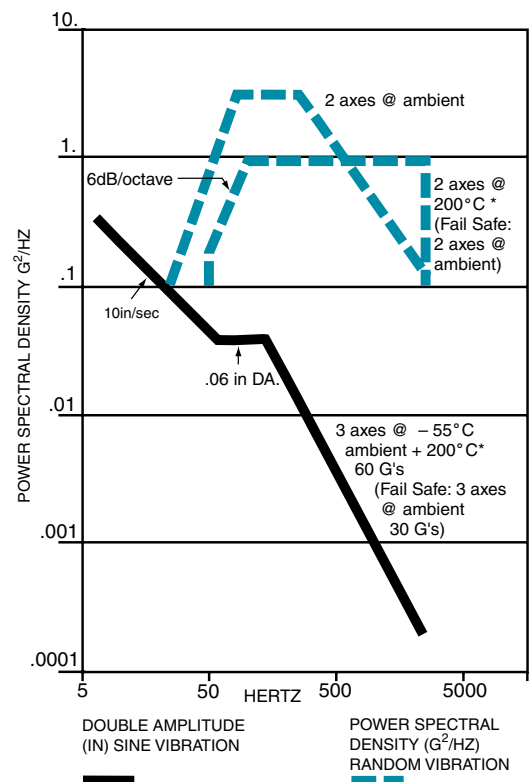
The TV and CTV Series III connector with standard solid metal-to-metal coupling, EMI grounding fingers and conductive finishes have proven to be the ultimate in EMI/EMP shielding effectiveness. The charts illustrate shielding effectiveness data which is typical of Tri-Start connectors tested with the nickel finish (Class F-metal, Class M-composite) over a wide frequency range. The vibration capability of the Tri-Start Series is shown in the chart below. This illustrates the most severe vibration envelope of *any* qualified connector available today. These capabilities along with a +200°C, -65°C temperature rating and superior moisture sealing protection provide the user with a connector that can withstand the most rigorous application.

TRI-START, SERIES III TYPICAL SHIELDING EFFECTIVENESS TEST DATA

EMI/EMP SHIELDING EFFECTIVENESS dB
TESTING BY MODE STIRRING METHOD



TRI-START VIBRATION CRITERIA



* Dependant on shell finish

Test data beyond 2GHz is subject to equipment variation.

NOTE: For test data information on the new Clutch-Lok Tri-Start, high vibration connectors, consult Amphenol Aerospace.

MIL-DTL-38999, Series III TV

How to Order (Military and Commercial)

Easy Steps to build a part number... Tri-Start Series III TV

1.	2.	3.	4.	5.	6.	7.
Commercial	Shell Style	Service Class	Shell Size— Insert Arrangement	Contact Type	Alternate Keying Position	Special Variations
TVPS	00	RF	9-35	P	B	(XXX)
Military	Shell Style	Service Class	Shell Size— Insert Arrangement	Contact Type	Alternate Keying Position	
D38999/	20	J	G35	P	N	

Step 1. Select a Connector Type

Do you need a Mil-Spec marked connector?

Military-MIS-Spec Market

D38999	Military MIL-DTL-38999 Series III Connector
---------------	---

If you don't need Mil-Spec Marked Connector select from the choices below.

Next question to help you decide.
What Shell Material & Temperature rating do you need?

Aluminum 175°C	
TV	Tri-Start 175°C
TVP	Panel mounted receptacle 175°C

Aluminum, Aluminum Bronze & Steel 200°C	
TVS	200°C rated
TVPS	Panel mounted, 200°C rated receptacle

Composite 175°C	
CTV	Composite 175°C
CTVP	Panel mounted composite receptacle 175°C

Composite 200°C	
CTVS	200°C rated, composite
CTVPS	Composite Panel mounted, 200° rated receptacle

Steel 200°C	
MTV	CLUTCH-LOK connector with "MS" stamping (Note: remove dashes in how to order part number when ordering CLUTCH-LOK)

Step 2. Select a Shell Style

COMMERCIAL					MILITARY			Designates
TVP, TVPS, CTVP, CTVPS	TV, CTV	TVS	CTVS	CLUTCH-LOK	D38999 Military	D38999 Military Composite	MTV, D38999 CLUTCH-LOK	
00					20	20		Wall Mount Receptacle
02								Box Mount Receptacle
					21			Box Mount Receptacle Hermetic
	01	01	01					Line Receptacle
	06	06	06		26	26		Straight Plug
	07	07	07		24	24		Jam Nut Receptacle
	09	09						Flange Mounted Plug
					23			Jam Nut Receptacle Hermetic
		I			25			Solder Mount Receptacle Hermetic
		HI			27			Weld Mounted Receptacle, (Hermetic) Only
	56	56	56					Straight plug with Dualok
				26			26	CLUTCH-LOK high vibration straight plug (Class RK only)
					29			Lanyard release plug with pin contacts
					30			Lanyard release plug with socket contacts
					31			Lanyard release plug for MIL-STD-1760 with pin contacts
					32			Plug protection cap
					33			Receptacle protection cap

Wall Mount Receptacle (00, 20)



Line Receptacle (01)



Box Mount Receptacle (02, 21)



Straight Plug (06)



Jam Nut Receptacle (07, 24)



Flange Mounting Plug (09)



Deep Reach Receptacle Consult Amphenol Aerospace



Solder Mount Hermetic Receptacle (I, 25)



Lanyard Release Plug (29, 30, 31)

38999

III

HD

Dualok

II

I

SJT

Accessories

Aquacon

Herm/Seal

PCB

HIGH SPEED

Fiber Optics

Contacts
Connectors
Cables

EMI Filter
Transient

26482
Matrix 2

83723 III
Matrix | Pyle

26500
Pyle

5015
Crimp Rear Release Matrix

22992
Class I

Back-
Shells

Options
Others

38999

Step 3. Select a Service Class

1.	2.	3.	4.	5.	6.	7.
Connector Type	Shell Style	Service Class	Shell Size-Insert Arrg.	Contact Type	Alternate Position	Special Variations
		RX				

TV	TVP	CTV	CTVP	CTVS, CTVPS	TVS	TVPS	CLUTCH-LOK	Military	Finish	ROHS	Description
					RB	RB			Aluminum Bronze	TBD	Corrosion resistant aluminum bronze for marine & other high corrosion applications, 200°C.
								C	Anodic Coating	■	Non-conductive, anodic coated aluminum, 500 hour salt spray, 200°C.
RX	RX				RX	RX				TBD	Consult Amphenol Aerospace for details, options and availability of non-cadmium or ROHS Compliant Finishes.
				RF-Composite	RF-Metal	RF-Metal		F-Metal M-Composite	Electroless Nickel	■	Electroless nickel plated aluminum (composite) optimum EMI shielding effectiveness -65dB @ 10GHz specification min., 48 hour salt spray, 200°C (Composite-2000 hours dynamic salt spray).
				RGF-Composite	RGF-Metal	RGF-Metal			Electroless Nickel	■	Electroless nickel plated ground plane aluminum (composite), 200°C
								G	Electroless Nickel	■	Space grade, electroless nickel, 48 hour salt spray, 200°C
RGW-Metal	RGW-Metal	RGW-Composite	RGW-Composite						Olive Drab Cadmium		Olive drab cadmium plated ground plane aluminum (composite), 175°C
					RK**	RK**	RK**	K	Passivated Stainless Steel	■	Corrosion resistant stainless steel, fire-wall capability, plus 500 hour salt spray resistance, EMI -45 dB @ 10 GHz specification min., 200°C
					RKN	RKN			Passivated Stainless Steel	■	Corrosion resistant stainless steel, non-firewall capability, plus 500 hour salt spray resistance, EMI -45 dB @ 10 GHz specification min., 200°C
					RL	RL		L	Stainless Steel w/ Nickel Plate	■	Corrosion resistant steel, electro deposited nickel, 500 hour salt spray, 200°C, non firewall, EMI shielding -65dB @ 10GHz specification min.
RW-Metal	RW-Metal	RW-Composite	RW-Composite					W-Metal J-Composite	Olive Drab Cadmium		Corrosion resistant olive drab cadmium plate aluminum (composite), 500 hour salt spray, EMI Shielding -50 dB@10 GHz specification min., 175°C (Composite - 2000 hours dynamic salt spray).
					Y	Y		Y	Stainless Steel	■	Hermetic seal, passivated stainless steel, 200°C
					RS*	RS*	RS*	S	Stainless Steel w/ Nickel Plate	■	(Non-hermetic connectors), Nickel plated, corrosion resistant steel, firewall capability, 500 hour salt spray, 200°, EMI shielding -65dB @ 10GHz specification min.
					YN	YN		N	Stainless Steel w/ Nickel Plate	■	(Hermetic connectors), Nickel plated corrosion resistant steel, 200°C
DT	DT							T	Durmalon plated	■	Nickel-PTFE alternative to Cadmium. Corrosion resistant, 500 hour salt spray, EMI -50dB at 10GHz specification min., 175°C
DZ	DZ							Z	Zinc-Nickel Plated	TBD	Zinc-Nickel Alternative to Cadmium, corrosion resistant, 500 hour salt spray, Conductive, -65°C to +175°C, EMI Shielding -50 dB @ 10 GHz specification min.

Quadrax or Differential Twinax:

The incorporation of Quadrax or Differential Twinax contacts requires a modified connector to accommodate keyed contacts.

* D38999/26KJ20PN, is a series III stainless steel plug with twin axial and coaxial contacts that may not meet the firewall requirement of the specification. D38999/26KJ61HN, is a series III stainless steel plug with high durability contacts. However, the connector will be limited to 500 cycles of durability. Insert arrangements using multi-axial (i.e. coax, twinax, triax shielded) contacts should not be used in firewall applications.

Step 4. Select a Shell Size & Insert Arrangement see pages 6-9

Double Start Threads	Triple Start Threads										Mil Shell Size
	A	B	C	D	E	F	G	H	J		
7	7H	9	11	13	15	17	19	21	23	25	Amphenol Shell size

1.	2.	3.	4.	5.	6.	7.
Connector Type	Shell Style	Service Class	Shell Size-Insert Arrg.	Contact Type	Alternate Position	Special Variations
			23-2			

Shell Size & Insert Arrangement are on pages 6-9. First number represents Shell Size, second number is the Insert Arrangement.

* Size 7 and 7H are Double Start Threads only

Step 5. Select a Contact Type

	Designates
P	Pin Contacts
S	Socket Contacts
H	1500 Cycle Pin Contacts
J	1500 Cycle Socket Contacts
A	Same as "P" except supplied less pin Contacts
B	Same as "S" except supplied less socket contacts (A & B designate nonstandard contact applications)
X	Eyelet contacts, hermetics only

Step 6. Select an Alternate Keying Position

Key/Keyway Position

Shell Size	Key & Keyway Arrangement Identification Letter	AR° or AP° BSC	BR° or BP° BSC	CR° or CP° BSC	DR° or DP° BSC
7, 7H	N* A B C D E	120 132 80 140 155 131	240 248 230 275 234 197	NA	NA
9	N* A B C D E	105 102 80 35 64 91	140 132 118 140 155 131	215 248 230 205 234 197	265 320 312 275 304 240
11, 13, and 15	N* A B C D E	95 113 90 53 119 51	141 156 145 156 146 141	208 182 195 220 176 184	236 292 252 255 298 242
17 and 19	N* A B C D E	80 135 49 66 62 79	142 170 169 140 145 153	196 200 200 200 180 197	293 310 244 257 280 272
21, 23, and 25	N* A B C D E	80 135 49 66 62 79	142 170 169 140 145 153	196 200 200 200 180 197	293 310 244 257 280 272
25L, 33, and 37	N* A B C D E	80 135 49 66 62 79	142 170 169 140 145 153	188 188 188 188 188 188	293 310 244 257 280 272

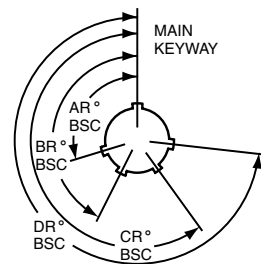
* An "N" designation is used on D38999 military part number but not on the commercial versions

Step 7. Special Variations

Consult Amphenol Aerospace for variations.

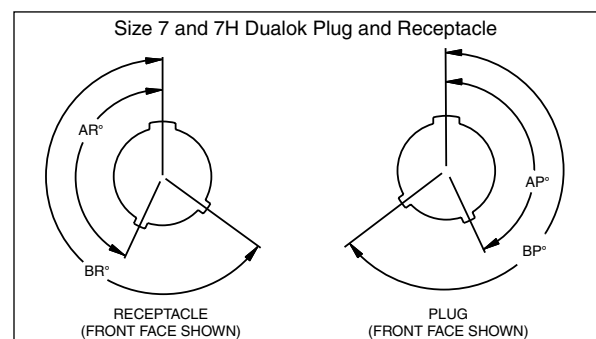
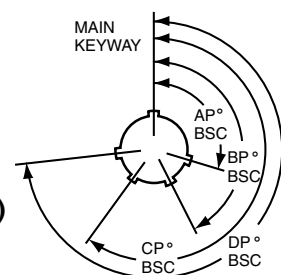
1.	2.	3.	4.	5.	6.	7.
Connector Type	Shell Style	Service Class	Shell Size-Insert Arrg.	Contact Type	Alternate Position	Special Variations
				P	B	

A plug with a given rotation letter will mate with a receptacle with the same rotation letter. The angles for a given connector are the same whether it contains pins or sockets. Master key stays fixed, minor keys rotate. Inserts are not rotated in conjunction with the master key/keyway.



PLUG
(front face shown)

RECEPTACLE
(front face shown)



38999

III

HD

Dualok

II

I

SJT

Accessories

Aquacon

Herm/Seal

PCB

HIGH SPEED

Fiber Optics

Contacts
Connectors
Cables

EMI Filter
Transient

26482
Matrix 2

83723 III
Matrix | Pyle

26500
Pyle

5015
Crimp Rear Release Matrix

22992
Class 1

Back-Shell

Options
Others

38999

Easy Steps to build a part number... Boeing BACC63 CT & CU

1. 2. 3. 4. 5. 6. 7. 8.

Boeing Basic Number	Style	Shell Size	Shell Finish & Contact	Insert Arrangement	Contact Type	Alternate Keying Position	Ordering Option
BACC63	CT	15	—	19	P	N	H

Composite

Step 1. Boeing Number BACC63

Step 2. Select a Style

Designates	
CT	Composite Plug
CU	Composite Receptacle

Step 3. Shell Size 15

Designates	
15	One Shell Size

Step 4. Select a Shell Finish & Contact

Designates	
C	CT Style Only. Cadmium Plated, Grounded
D	Cadmium Plated, ungrounded
G	Nickel Plated, Grounded
—	Nickel Plated, Ungrounded

Step 5. Insert Arrangements- Consult Amphenol Aerospace for insert arrangements available.

Step 6. Select a Contact Type

Designates	
P	Pin
S	Socket

Step 7. Select an Alternate Keying Position

Designates	
N	Normal
A-E	Alternates

Step 8. Ordering Option

Designates	
H	Without Contacts & Seal Plugs
Blank	With Contacts & Seal Plugs

Easy Steps to build a part number... Boeing BACC63 DB & DC

1. 2. 3. 4. 5. 6. 7. 8.

Boeing Basic Number	Style	Shell Size	Separator	Insert Arrangement	Contact Type	Alternate Keying Position	Ordering Option
BACC63	DB	15	—	19	P	N	H
BACC63	DC	17	—	8	P	N	H

Stainless Steel

Step 1. Boeing Number BACC63

Step 2. Select a Style

Designates	
DB	Stainless Steel Plug
DC	Stainless Steel Receptacle

Step 3. Select a Shell Size

Designates	
9-25	Shell Size

Step 4. Separator

Designates	
—	Separator

Step 5. Insert Arrangements- Consult Amphenol Aerospace for insert arrangements available.

Step 7. Select an Alternate Keying Position

Designates	
N	Normal
A-E	Alternates

Step 8. Ordering Option

Designates	
H	Without Contacts & Seal Plugs
Blank	With Contacts & Seal Plugs

Step 6. Select a Contact Type

Designates	
P	Pin
S	Socket

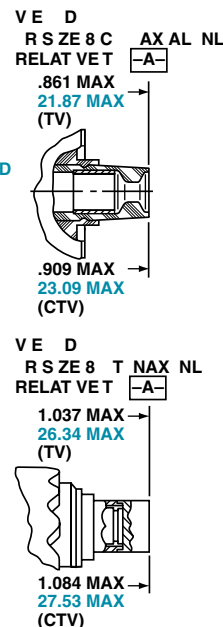
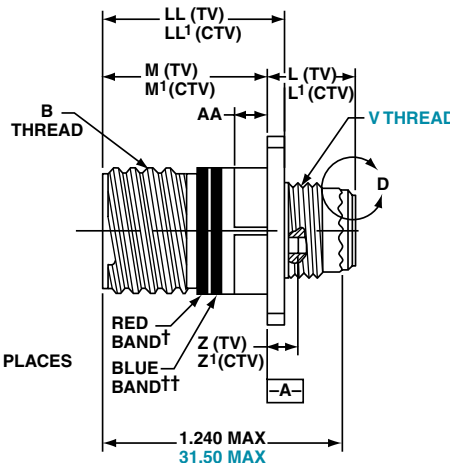
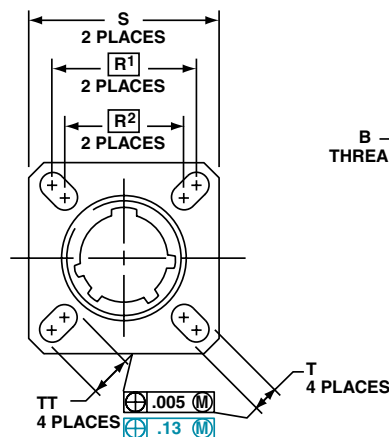
TVP00R (D38999/20) - Crimp, Metal CTVP00R (D38999/20) - Crimp, Composite

Wall Mounting Receptacle

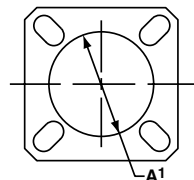
PART

To complete,
see how to order
pages 25-27.

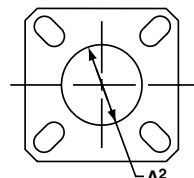
Connector Type	Shell Style	Service Class	Shell Size & Insert Arr	Contact Type	Alternate Position	Special Variations
TVP	00	RW	9-35	P	B	(453)
TVPS	00	RK	X-X	X	X	(XXX)
TVPS	00	RF	X-X	X	X	(XXX)
TVPS	00	RS	X-X	X	X	(XXX)
CTVP	00	RW	X-X	X	X	(XXX)
CTVPS	00	RF	X-X	X	X	(XXX)
D38999/	20	X	X-X	X	X	NA



PANEL HOLE DIMENSIONS



BACK PANEL MOUNTING



FRONT PANEL MOUNTING

† Red band indicates fully mated

†† Blue band indicates rear release contact retention system

Shell Size	MS Shell Size Code	B Thread Class 2A 0.1P=0.3L-TS (Plated)	L Max. (TV)	L' Max. (CTV)	M +.000 -0.005 (TV)	M' +.000 -0.005 (CTV)	R ¹	R ²	S Max.	T ±.008	Z Max. (TV)	Z' Max. (CTV)	A ¹ Back Panel Mount	A ² Front Panel Mount	AA Max. Panel Thickness	LL +.006 -0.000 (TV)	LL1 ±.005 (CTV)	TT ±.008
9	A	.6250	.469	.514	.820	.773	.719	.594	.948	.128	.153	.198	.655	.516	.234	.905	.908	.216
11	B	.7500	.469	.514	.820	.773	.812	.719	1.043	.128	.153	.198	.796	.625	.234	.905	.908	.194
13	C	.8750	.469	.514	.820	.773	.906	.812	1.137	.128	.153	.198	.922	.750	.234	.905	.908	.194
15	D	1.0000	.469	.514	.820	.773	.969	.906	1.232	.128	.153	.198	1.047	.906	.234	.905	.908	.173
17	E	1.1875	.469	.514	.820	.773	1.062	.969	1.323	.128	.153	.198	1.219	1.016	.234	.905	.908	.194
19	F	1.2500	.469	.514	.820	.773	1.156	1.062	1.449	.128	.153	.198	1.297	1.141	.234	.905	.908	.194
21	G	1.3750	.500	.545	.790	.741	1.250	1.156	1.575	.128	.183	.228	1.442	1.266	.204	.905	.904	.194
23	H	1.5000	.500	.545	.790	.741	1.375	1.250	1.701	.154	.183	.228	1.547	1.375	.204	.905	.904	.242
25	J	1.6250	.500	.545	.790	.741	1.500	1.375	1.823	.154	.183	.228	1.672	1.484	.204	.905	.904	.242

Inches

Shell Size	MS Shell Size Code	L Max. (TV)	L' Max. (CTV)	M +.00 -0.13 (TV)	M' +.00 -0.13 (CTV)	R ¹	R ²	S Max.	T ±.20	V Thread Metric	Z Max. (TV)	Z' Max. (CTV)	A ¹ Back Panel Mount	A ² Front Panel Mount	AA Max.	LL +.15 -0.00 (TV)	LL1 ±.13 (CTV)	TT ±.20
9	A	11.91	13.06	20.83	19.63	18.26	15.09	24.1	3.25	M12X1-6g	3.89	5.03	16.66	13.11	5.94	22.99	23.06	5.49
11	B	11.91	13.06	20.83	19.63	20.62	18.26	26.5	3.25	M15X1-6g	3.89	5.03	20.22	15.88	5.94	22.99	23.06	4.93
13	C	11.91	13.06	20.83	19.63	23.01	20.62	28.9	3.25	M18X1-6g	3.89	5.03	23.42	19.05	5.94	22.99	23.06	4.93
15	D	11.91	13.06	20.83	19.63	24.61	23.01	31.3	3.25	M22X1-6g	3.89	5.03	26.59	23.01	5.94	22.99	23.06	4.39
17	E	11.91	13.06	20.83	19.63	26.97	24.61	33.7	3.25	M25X1-6g	3.89	5.03	30.96	25.81	5.94	22.99	23.06	4.93
19	F	11.91	13.06	20.83	19.63	29.36	26.97	36.9	3.25	M28X1-6g	3.89	5.03	32.94	28.98	5.94	22.99	23.06	4.93
21	G	12.70	13.84	20.07	18.82	31.75	29.36	40.1	3.25	M31X1-6g	4.65	5.79	36.12	32.16	5.18	22.99	22.96	4.93
23	H	12.70	13.84	20.07	18.82	34.93	31.75	43.3	3.91	M34X1-6g	4.65	5.79	39.29	34.93	5.18	22.99	22.96	6.15
25	J	12.70	13.84	20.07	18.82	38.10	34.93	46.4	3.91	M37X1-6g	4.65	5.79	42.47	37.69	5.18	22.99	22.96	6.15

Millimeters

All dimensions for reference only



Designates true position dimensioning

38999

III

HD

Dualok

II

I

SJT

Accessories

Aquacon

Herm/Seal

PCB

HIGH SPEED

Fiber Optics

Contacts
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Transient

26482
Matrix 2

83723 III
Matrix | Pyle

26500
Pyle

5015
Crimp Rear Release Matrix

22992
Class I

Back-Shell

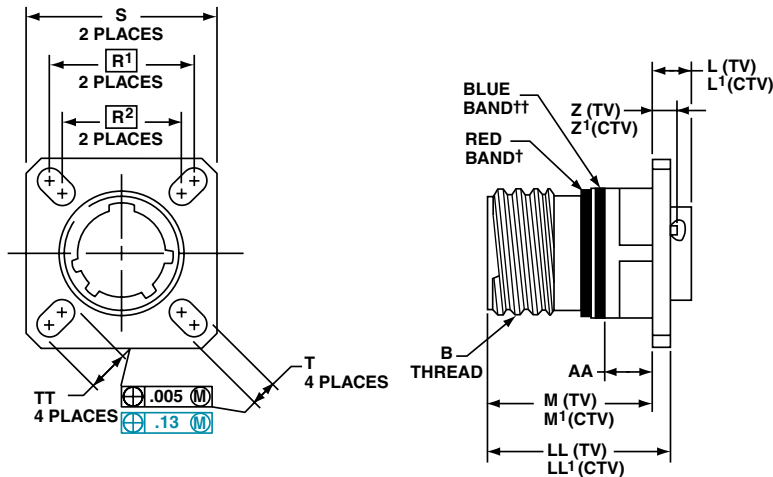
Options
Others

Box Mounting Receptacle

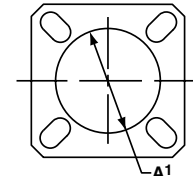
PART

To complete, see how to order pages 25-27.

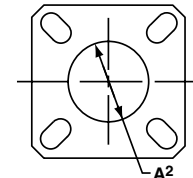
Connector Type	Shell Style	Service Class	Shell Size & Insert Arr	Contact Type	Alternate Position	Special Variations
TVP	02	RW	9-35	P	B	(453)
TVPS	02	RK	X-X	X	X	(XXX)
TVPS	02	RF	X-X	X	X	(XXX)
TVPS	02	RS	X-X	X	X	(XXX)
CTVP	02	RW	X-X	X	X	(XXX)
CTVPS	02	RF	X-X	X	X	(XXX)



PANEL HOLE DIMENSIONS



BACK PANEL MOUNTING



FRONT PANEL MOUNTING

† Red band indicates fully mated

†† Blue band indicates rear release contact retention system

Consult Amphenol Aerospace for availability of composite box mount receptacles.

Inches

Shell Size	MS Shell Size Code	B Thread Class 2A 0.1P=0.3L-TS (Plated)	L Max. (TV)	L' Max. (CTV)	M +.000 - .005 (TV)	M' +.000 - .005 (CTV)	R ¹	R ²	S Max.	T ±.008	Z Max. (TV)	Z' Max. (CTV)	A ¹ Back Panel Mount	A ² Front Panel Mount	AA Max. Panel Thickness	LL +.006 - .000 (TV)	LL1 ±.005 (CTV)	TT ±.008
9	A	.6250	.205	.250	.820	.773	.719	.594	.948	.128	.153	.198	.650	.510	.234	.905	.908	.216
11	B	.7500	.205	.250	.820	.773	.812	.719	1.043	.128	.153	.198	.800	.620	.234	.905	.908	.194
13	C	.8750	.205	.250	.820	.773	.906	.812	1.137	.128	.153	.198	.910	.740	.234	.905	.908	.194
15	D	1.0000	.205	.250	.820	.773	.969	.906	1.232	.128	.153	.198	1.040	.900	.234	.905	.908	.173
17	E	1.1875	.205	.250	.820	.773	1.062	.969	1.323	.128	.153	.198	1.210	1.010	.234	.905	.908	.194
19	F	1.2500	.205	.250	.820	.773	1.156	1.062	1.449	.128	.153	.198	1.280	1.130	.234	.905	.908	.194
21	G	1.3750	.235	.280	.790	.741	1.250	1.156	1.575	.128	.183	.228	1.410	1.250	.204	.905	.904	.194
23	H	1.5000	.235	.280	.790	.741	1.375	1.250	1.701	.154	.183	.228	1.530	1.360	.204	.905	.904	.242
25	J	1.6250	.235	.280	.790	.741	1.500	1.375	1.823	.154	.183	.228	1.660	1.470	.204	.905	.904	.242

Millimeters

Shell Size	MS Shell Size Code	L Max. (TV)	L' Max. (CTV)	M +.00 - .13 (TV)	M' +.00 - .13 (CTV)	R ¹	R ²	S Max.	T ±.20	Z Max. (TV)	Z' Max. (CTV)	A ¹ Back Panel Mount	A ² Front Panel Mount	AA Max.	LL +.15 - .00 (TV)	LL1 ±.13 (CTV)	TT ±.20
9	A	5.21	6.35	20.83	19.63	18.26	15.09	24.1	3.25	3.89	5.03	16.66	13.11	5.94	22.99	23.06	5.49
11	B	5.21	6.35	20.83	19.63	20.62	18.26	26.5	3.25	3.89	5.03	20.22	15.88	5.94	22.99	23.06	4.93
13	C	5.21	6.35	20.83	19.63	23.01	20.62	28.9	3.25	3.89	5.03	23.42	19.05	5.94	22.99	23.06	4.93
15	D	5.21	6.35	20.83	19.63	24.61	23.01	31.3	3.25	3.89	5.03	26.59	23.01	5.94	22.99	23.06	4.39
17	E	5.21	6.35	20.83	19.63	26.97	24.61	33.7	3.25	3.89	5.03	30.96	25.81	5.94	22.99	23.06	4.93
19	F	5.21	6.35	20.83	19.63	29.36	26.97	36.9	3.25	3.89	5.03	32.94	28.98	5.94	22.99	23.06	4.93
21	G	5.97	7.11	20.07	18.82	31.75	29.36	40.1	3.25	4.65	5.79	36.12	32.16	5.18	22.99	22.96	4.93
23	H	5.97	7.11	20.07	18.82	34.92	31.75	43.3	3.91	4.65	5.79	39.29	34.93	5.18	22.99	22.96	6.15
25	J	5.97	7.11	20.07	18.82	38.10	34.92	46.4	3.91	4.65	5.79	42.47	37.69	5.18	22.99	22.96	6.15

All dimensions for reference only

□ Designates true position dimensioning

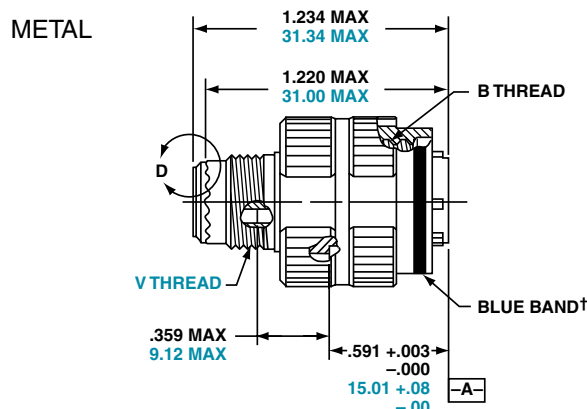
TV06R (D38999/26) – Crimp, Metal CTV06R (D38999/26) – Crimp, Composite

Straight Plug

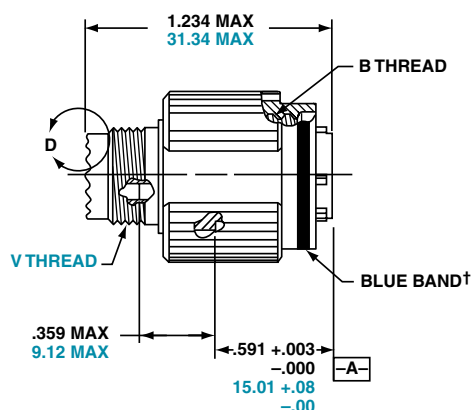
PART

To complete,
see how to order
pages 25-27.

Connector Type	Shell Style	Service Class	Shell Size & Insert Arrg	Contact Type	Alternate Position	Special Variations
TV	06	RW	9-35	P	B	(453)
TVS	06	RK	X-X	X	X	(XXX)
TVS	06	RF	X-X	X	X	(XXX)
TVS	06	RS	X-X	X	X	(XXX)
CTV	06	RW	X-X	X	X	(XXX)
CTVS	06	RF	X-X	X	X	(XXX)
D38999/	26	X	X-X	X	X	NA



COMPOSITE



† Blue band indicates rear release contact retention system

Inches

Shell Size	MS Shell Size Code	B Thread 0.1P-0.3L-TS-2B (Plated)	Q Dia. Max.
9	A	.6250	.858
11	B	.7500	.984
13	C	.8750	1.157
15	D	1.0000	1.280
17	E	1.1875	1.406
19	F	1.2500	1.516
21	G	1.3750	1.642
23	H	1.5000	1.768
25	J	1.6250	1.890

All dimensions for reference only.

Millimeters

Shell Size	MS Shell Size Code	Q Max.	V Thread Metric
9	A	21.8	M12X1-6g
11	B	25.0	M15X1-6g
13	C	29.4	M18X1-6g
15	D	32.5	M22X1-6g
17	E	35.7	M25X1-6g
19	F	38.5	M28X1-6g
21	G	41.7	M31X1-6g
23	H	44.9	M34X1-6g
25	J	48.0	M37X1-6g

38999

III
HD
Dualok
II
I
SJT
Accessories
Aquacon
Herm/Seal
PCB

HIGH SPEED
Fiber Optics
Contacts
Connectors
Cables

EMI Filter
Transient

26482
Matrix 2

83723 III
Matrix Pyle

26500
Pyle

5015
Crimp Rear Release Matrix

22992
Class 1

Back-Shell

Options
Others

38999

PART

To complete, see how to order pages 25-27.

Connector Type	Shell Style	Service Class	Shell Size & Insert Arrg	Contact Type	Alternate Position	Special Variations
TV	26	RK	9-35	P	N	(453)
TV	26	RS	X-X	X	N	(XXX)
MTV	26	RK	X-X	X	N	(XXX)
MTV	26	RS	X-X	X	N	(XXX)

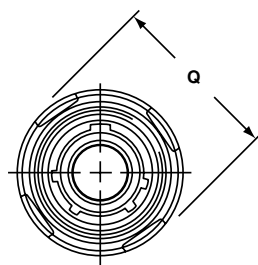
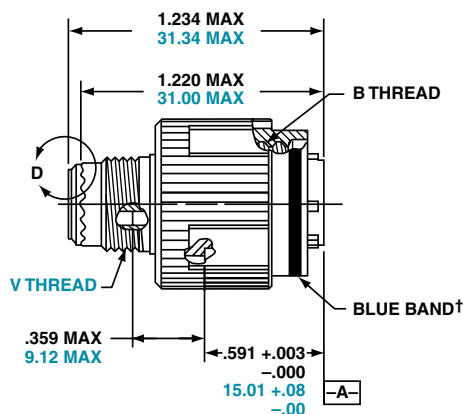
For parts with MS Stamping use MTV26() part number as shown above.

Designed for high vibration and harsh environments such as aircraft gas turbine engines, the CLUTCH-LOK is also an ideal choice for demanding applications such as aircraft, space and military ground vehicles. The unique clutch design of the Amphenol CLUTCH-LOK means that you don't have to compromise the need for quick, smooth mating of plugs and receptacles in order to get increased uncoupling torque.

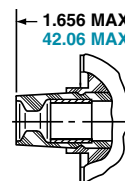
The CLUTCH-LOK has proven to not only remain mated and pass all the Series III specification requirements, it also has proven to actually tighten itself under vibration. This is a powerful advantage over the traditionally high vibration application connectors. The CLUTCH-LOK is also a tremendous advantage in inaccessible, hard to reach areas where mating torque is difficult to apply and complete coupling is not verifiable by inspection.

CLUTCH-LOK features and benefits:

- High degree of differential torque
- Infinite free coupling and positive metal-to-metal bottoming with each mating
- No settling back to the next ratchet tooth
- Available with stainless steel shells and Class K firewall inserts
- All the advantages of MIL-DTL-38999 Series III including EMI/RFI shielding, electrolytic erosion resistance and contact protection with recessed pins
- Enhanced connector performance at affordable prices
- Completely intermateable with all existing MIL-DTL-38999 Series III connectors
- Fully QPL'd



VIEW D
FOR SIZE 8 COAXIAL ONLY,
RELATIVE TO -A-



† Blue band indicates rear release contact retention system

Inches

Shell Size	MS Shell Size Code	B Thread 0.1P-0.3L-TS-2B (Plated)	Q Dia. Max.
9	A	.6250	.858
11	B	.7500	.984
13	C	.8750	1.157
15	D	1.0000	1.280
17	E	1.1875	1.406
19	F	1.2500	1.516
21	G	1.3750	1.642
23	H	1.5000	1.768
25	J	1.6250	1.890

Millimeters

Shell Size	MS Shell Size Code	Q Max.	V Thread Metric
9	A	21.8	M12X1-6g
11	B	25.0	M15X1-6g
13	C	29.4	M18X1-6g
15	D	32.5	M22X1-6g
17	E	35.7	M25X1-6g
19	F	38.5	M28X1-6g
21	G	41.7	M31X1-6g
23	H	44.9	M34X1-6g
25	J	48.0	M37X1-6g

All dimensions for reference only.

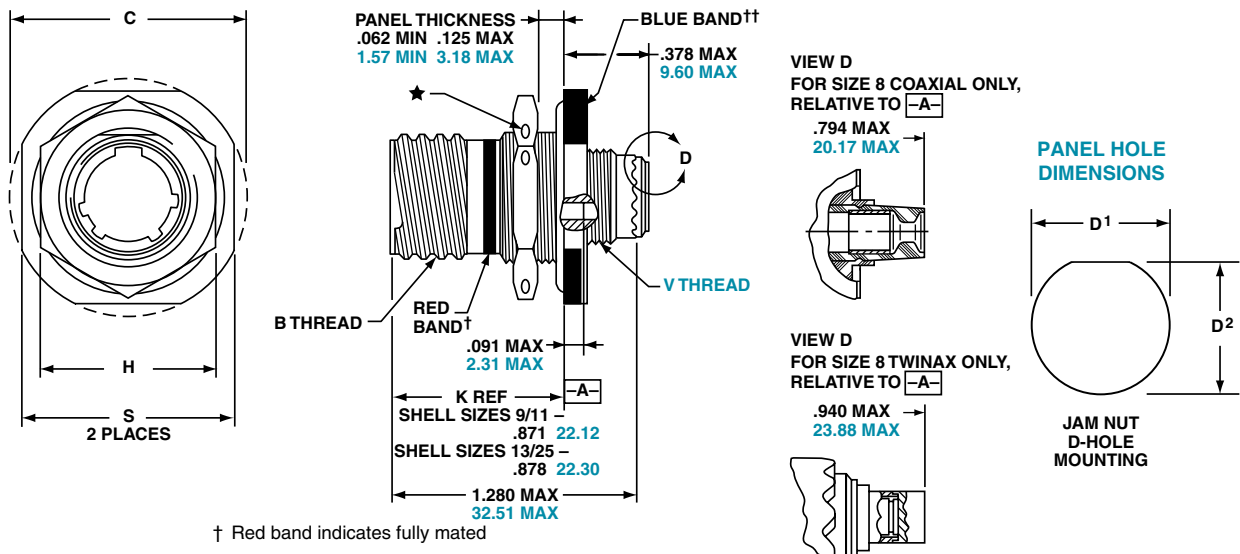
TV07R (D38999/24) – Crimp, Metal CTV07R (D38999/24) – Crimp, Composite

Jam Nut Receptacle

PART

To complete,
see how to order
pages 25-27.

Connector Type	Shell Style	Service Class	Shell Size & Insert Arr	Contact Type	Alternate Position	Special Variations
TV	07	RW	9-35	P	B	(453)
TVS	07	RK	X-X	X	X	(XXX)
TVS	07	RF	X-X	X	X	(XXX)
TVS	07	RS	X-X	X	X	(XXX)
CTV	07	RW	X-X	X	X	(XXX)
CTVS	07	RF	X-X	X	X	(XXX)
D38999/	24	X	X-X	X	X	NA



† Red band indicates fully mated

†† Blue band indicates rear release contact retention system

★ .059 dia min.

1.5 dia min., 3 lockwire holes Formed lockwire hole design (6 holes) is optional Inches

Shell Size	MS Shell Size Code	B Thread Class 2A 0.1P-0.3L-TS (Plated)	C Max.	D ¹ +.010 -0.000	D ² +.000 -0.010	H Hex +.017 -0.016	S ±.010
9	A	.6250	1.199	.693	.657	.875	1.062
11	B	.7500	1.386	.825	.770	1.000	1.250
13	C	.8750	1.511	1.010	.955	1.188	1.375
15	D	1.0000	1.636	1.135	1.085	1.312	1.500
17	E	1.1875	1.761	1.260	1.210	1.438	1.625
19	F	1.2500	1.949	1.385	1.335	1.562	1.812
21	G	1.3750	2.073	1.510	1.460	1.688	1.938
23	H	1.5000	2.199	1.635	1.585	1.812	2.062
25	J	1.6250	2.323	1.760	1.710	2.000	2.188

Millimeters

Shell Size	MS Shell Size Code	C Max.	D ¹ +.25 -0.00	D ² +.00 -0.25	H Hex +.43 -0.41	S ±.25	V Thread Metric
9	A	30.45	17.60	16.70	22.23	26.97	M12X1-6g
11	B	35.20	20.96	19.59	25.40	31.75	M15X1-6g
13	C	38.38	25.65	24.26	30.18	34.93	M18X1-6g
15	D	41.55	28.83	27.56	33.32	38.10	M22X1-6g
17	E	44.73	32.01	30.73	36.53	41.28	M25X1-6g
19	F	49.50	35.18	33.91	39.67	46.02	M28X1-6g
21	G	52.65	38.35	37.08	42.80	49.23	M31X1-6g
23	H	55.85	41.53	40.26	46.02	52.37	M34X1-6g
25	J	59.00	44.70	43.43	50.80	55.58	M37X1-6g

All dimensions for reference only NOTE: Deep reach receptacles are available for panel thicknesses up to .750 max.

38999

III
HD
Dualok
II
I
SJT
Accessories
Aquacon
Herm/Seal
PCB

HIGH SPEED
Fiber Optics
Contacts Connectors Cables

EMI Filter Transient

26482 Matrix 2

83723 III Matrix Pyle

26500 Pyle

5015 Crimp Rear Release Matrix

22992 Class I

Back-Shells

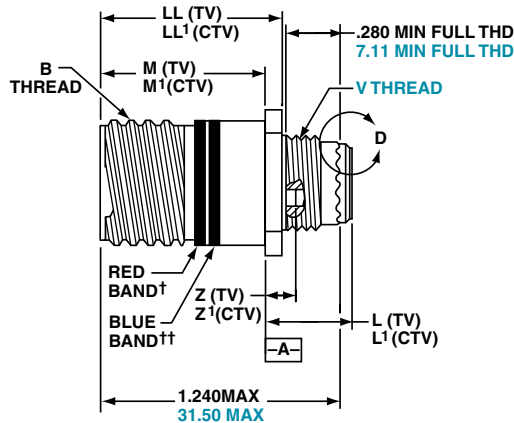
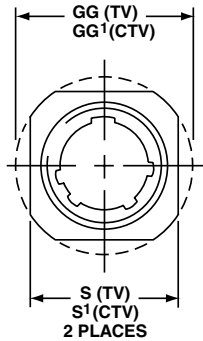
Options Others

Line Receptacle

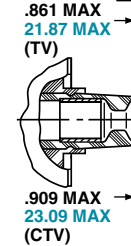
PART

To complete,
see how to order
pages 25-27.

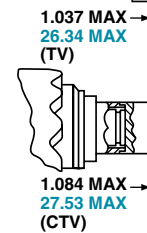
Connector Type	Shell Style	Service Class	Shell Size & Insert Arrg	Contact Type	Alternate Position	Special Variations
TV	01	RW	9-35	P	B	(453)
TVS	01	RF	X-X	X	X	(XXX)
CTV	01	RW	X-X	X	X	(XXX)
CTVS	01	RF	X-X	X	X	(XXX)



VIEW D
FOR SIZE 8 COAXIAL ONLY,
RELATIVE TO -A-



VIEW D
FOR SIZE 8 TWINAX ONLY,
RELATIVE TO -A-



† Red band indicates fully mated

†† Blue band indicates rear release contact retention system

Inches

Shell Size	MS Shell Size Code	B Thread 0.1P-0.3L-TS-2A (Plated)	M +.000 - .005 (TV)	M' +.000 - .005 (CTV)	L Max. (TV)	L' Max. (CTV)	S ±.010 (TV)	S' ±.010 (CTV)	Z Max (TV)	Z' Max (CTV)	GG ±.010 (TV)	GG' ±.010 (CTV)	LL +.006 - .000 (TV)	LL' ±.005 (CTV)
9	A	.6250	.820	.773	.469	.514	.675	.635	.153	.198	.812	.699	.905	.908
11	B	.7500	.820	.773	.469	.514	.800	.765	.153	.198	.905	.875	.905	.908
13	C	.8750	.820	.773	.469	.514	.925	.885	.153	.198	1.093	1.007	.905	.908
15	D	1.0000	.820	.773	.469	.514	1.050	1.100	.153	.198	1.219	1.140	.905	.908
17	E	1.1875	.820	.773	.469	.514	1.238	1.197	.153	.198	1.375	1.229	.905	.908
19	F	1.2500	.820	.773	.469	.514	1.300	1.260	.153	.198	1.469	1.380	.905	.908
21	G	1.3750	.790	.741	.500	.545	1.425	1.385	.183	.228	1.625	1.493	.905	.904
23	H	1.5000	.790	.741	.500	.545	1.550	1.510	.183	.228	1.750	1.626	.905	.904
25	J	1.6250	.790	.741	.500	.545	1.675	1.635	.183	.228	1.875	1.777	.905	.904

Millimeters

Shell Size	MS Shell Size Code	M +.00 - .013 (TV)	M' +.00 - .13 (CTV)	L Max. (TV)	L' Max. (CTV)	S ±.25 (TV)	S' ±.010 (CTV)	V Thread Metric	Z Max (TV)	Z' Max (CTV)	GG ±.25 (TV)	GG' ±.25 (CTV)	LL +.15 - .00 (TV)	LL' ±.13 (CTV)
9	A	20.83	19.63	11.91	13.06	17.15	16.13	M12X1-6g	3.89	5.03	20.62	17.75	22.99	23.06
11	B	20.83	19.63	11.91	13.06	20.32	19.43	M15X1-6g	3.89	5.03	22.99	22.22	22.99	23.06
13	C	20.83	19.63	11.91	13.06	23.50	22.47	M18X1-6g	3.89	5.03	27.76	25.57	22.99	23.06
15	D	20.83	19.63	11.91	13.06	26.67	27.94	M22X1-6g	3.89	5.03	30.96	28.95	22.99	23.06
17	E	20.83	19.63	11.91	13.06	31.45	30.40	M25X1-6g	3.89	5.03	34.93	31.21	22.99	23.06
19	F	20.83	19.63	11.91	13.06	33.02	32.00	M28X1-6g	3.89	5.03	37.31	35.05	22.99	23.06
21	G	20.07	18.82	12.70	13.84	36.20	35.18	M31X1-6g	4.65	5.79	41.28	37.92	22.99	22.96
23	H	20.07	18.82	12.70	13.84	39.37	38.35	M34X1-6g	4.65	5.79	44.45	41.30	22.99	22.96
25	J	20.07	18.82	12.70	13.84	42.55	41.53	M37X1-6g	4.65	5.79	47.63	45.13	22.99	22.96

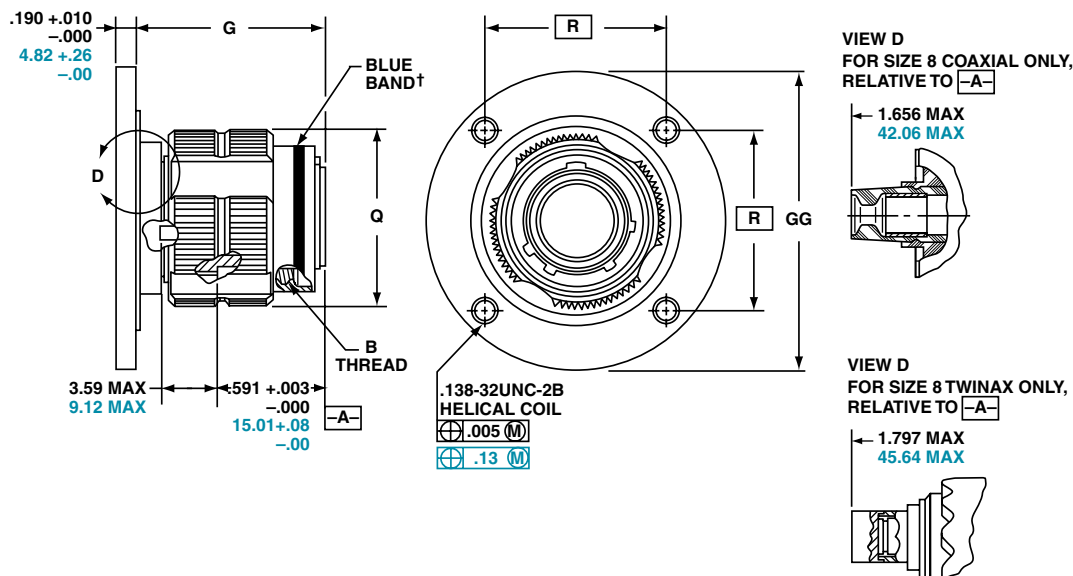
All dimensions for reference only

TV09R – Crimp, Metal Flange Mounting Plug

PART

To complete, see how to
order pages 25-27.

Connector Type	Shell Style	Service Class	Shell Size & Insert Arrg	Contact Type	Alternate Position	Special Variations
TV	09	RW	9-35	P	B	(453)
TVS	09	RF	X-X	X	X	(XXX)



† Blue band indicates rear release contact retention system

Inches

Shell Size	MS Shell Size Coded	B Thread 0.1P-0.3L-TS-2A (Plated)	G ±.060	Q Dia. Max	R	GG Dia ±.005
9**	A	.6250	1.106	.859	1.038	1.838
11	B	.7500	1.106	.969	1.115	1.948
13**	C	.8750	1.106	1.141	1.240	2.124
15	D	1.0000	1.106	1.266	1.327	2.248
17	E	1.1875	1.106	1.391	1.417	2.375
19	F	1.2500	1.356	1.500	1.557	2.495
21	G	1.3750	1.356	1.625	1.624	2.568
23	H	1.5000	1.356	1.750	1.713	2.723
25	J	1.6250	1.356	1.875	1.801	2.848

Millimeters

Shell Size	MS Shell Size Coded	G ±.152	Q Dia. Max	R	GG Dia ±.13
9**	A	28.09	21.82	26.37	46.69
11	B	28.09	24.62	28.32	49.48
13**	C	28.09	28.98	31.50	53.95
15	D	28.09	32.16	33.71	57.10
17	E	28.09	35.33	35.99	60.33
19	F	34.44	38.10	39.55	63.37
21	G	34.44	41.28	41.25	65.23
23	H	34.44	44.45	43.51	69.16
25	J	34.44	47.63	45.75	72.34

All dimensions for reference only

** Partially tooled. Consult Amphenol Aerospace for availability

□ Designates true position dimensioning

38999

III

HD

Dualok

II

I

SJT

Accessories

Aquacon

Herm/Seal

PCB

HIGH
SPEED

Fiber
Optics

Contacts
Connectors
Cables

EMI Filter
Transient

26482
Matrix 2

83723 III
Matrix | Pyle

26500
Pyle

5015
Crimp Rear
Release
Matrix

22992
Class 1

Back-
Shells

Options
Others

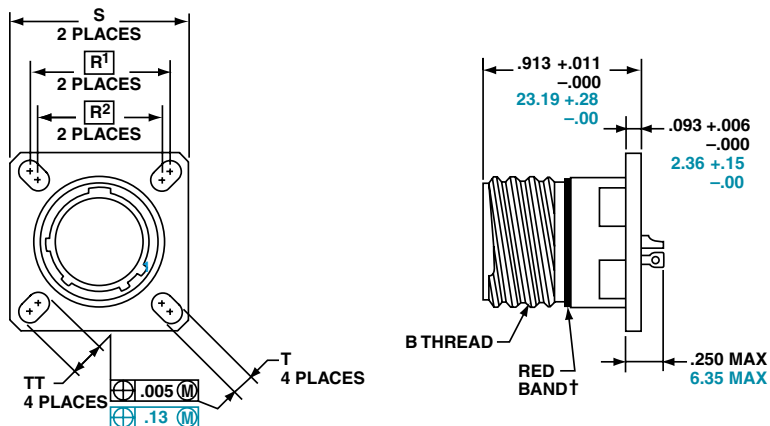
Box Mounting Receptacle

38999

PART

To complete, see how to order pages 25-27.

Connector Type	Shell Style	Service Class	Shell Size & Insert Arrg	Contact Type	Alternate Position	Special Variations
TVPS	02	Y	9-35	P	B	(453)
TVPS	02	YN	X-X	X	X	(XXX)
D38999/	21	X	X-X	X	X	NA



† Red band indicates fully mated

NOTE: Consult Amphenol Aerospace for availability of non-glass-sealed versions with printed circuit tail contacts.

Inches

Shell Size	MS Shell Size Coded	B Thread 0.1P-0.3L-TS (Plated)	R1	R2	S ±.010	T ±.008	TT ±.008
9	A	.6250	.719	.594	.938	.128	.216
11	B	.7500	.812	.719	1.031	.128	.194
13	C	.8750	.906	.812	1.125	.128	.194
15	D	1.0000	.969	.906	1.219	.128	.173
17	E	1.1875	1.062	.969	1.312	.128	.194
19	F	1.2500	1.156	1.062	1.438	.128	.194
21	G	1.3750	1.250	1.156	1.562	.128	.194
23	H	1.5000	1.375	1.250	1.688	.154	.242
25	J	1.6250	1.500	1.375	1.812	.154	.242

Millimeters

Shell Size	MS Shell Size Coded	R1	R2	S ±.25	T ±.20	TT ±.20
9	A	18.26	15.09	23.83	3.25	5.49
11	B	20.62	18.26	26.19	3.25	4.93
13	C	23.01	20.62	28.58	3.25	4.93
15	D	24.61	23.01	30.96	3.25	4.39
17	E	26.97	24.61	33.32	3.25	4.93
19	F	29.36	26.97	36.53	3.25	4.93
21	G	31.75	29.36	39.67	3.25	4.93
23	H	34.93	31.75	42.88	3.91	6.15
25	J	38.10	34.93	46.02	3.91	6.15

All dimensions for reference only

□ Designates true position dimensioning

TVS07Y (D38999/23) – Hermetic

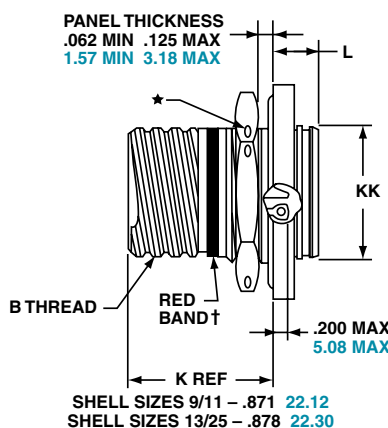
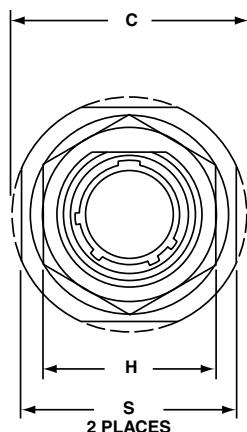
Stainless Steel

Jam Nut Receptacle

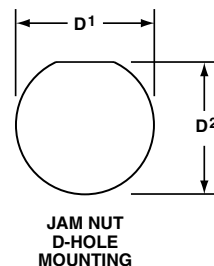
PART

To complete,
see how to order
pages 25-27.

Connector Type	Shell Style	Service Class	Shell Size & Insert Arrg	Contact Type	Alternate Position	Special Variations
TVS	07	Y	9-35	P	B	(453)
TVS	07	YN	X-X	X	X	(XXX)
D38999/	23	X	X-X	X	X	NA



PANEL HOLE DIMENSIONS



† Red band indicates fully mated

★ .059 dia min.

1.5 dia min. 3 lockwire holes

Formed lockwire hole design (6 holes) is optional.

Inches

Shell Size	MS Shell Size code	B Thread Class 2A 0.1P-0.3L-TS (Plated)	C Max	D ¹ +.010 - .000	D ² +.000 - .010	H Hex +.017 - .016	L Max	S ±.010	KK +.011 - .000
9	A	.6250	1.199	.693	.657	.875	.357	1.062	.642
11	B	.7500	1.386	.825	.770	1.000	.357	1.250	.766
13	C	.8750	1.511	1.010	.955	1.188	.357	1.375	.892
15	D	1.0000	1.636	1.135	1.085	1.312	.357	1.500	1.018
17	E	1.1875	1.761	1.260	1.210	1.438	.357	1.625	1.142
19	F	1.2500	1.949	1.385	1.335	1.562	.381	1.812	1.268
21	G	1.3750	2.073	1.510	1.460	1.688	.381	1.938	1.392
23	H	1.5000	2.199	1.635	1.585	1.812	.381	2.062	1.518
25	J	1.6250	2.323	1.760	1.710	2.000	.381	2.188	1.642

Millimeters

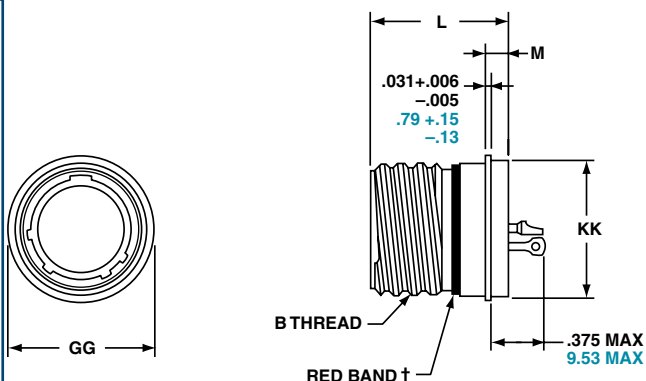
Shell Size	MS Shell Size code	C Max	D ¹ +.25 - .00	D ² +.00 - .25	H Hex +.43 - .41	L Max	S ±.25	KK +.28 - .00
9	A	30.45	17.60	16.70	22.23	9.07	26.97	16.31
11	B	35.20	20.96	19.59	25.40	9.07	31.75	19.46
13	C	38.38	25.65	24.26	30.18	9.07	34.93	22.66
15	D	41.55	28.83	27.56	33.32	9.07	38.10	25.86
17	E	44.73	32.01	30.73	36.53	9.07	41.28	29.01
19	F	49.50	35.18	33.91	39.67	9.68	46.02	32.21
21	G	52.65	38.35	37.08	42.80	9.68	49.23	35.36
23	H	55.85	41.53	40.26	46.02	9.68	52.37	38.56
25	J	59.00	44.70	43.43	50.80	9.68	55.58	41.71

All dimensions for reference only

Solder Mounting Receptacle

38999

III
HD
Dualok
II
I
SJT
Accessories
Aquacon
Herm/Seal
PCB



PART

To complete, see how to order pages 25-27.

Connector Type	Shell Style	Service Class	Shell Size & Insert Arrg	Contact Type	Alternate Position	Special Variations
TVS	I	Y	9-35	P	B	(453)
TVS	I	YN	X-X	X	X	(XXX)
D38999/	25	X	X-X	X	X	NA

† Red band indicates fully mated

Inches

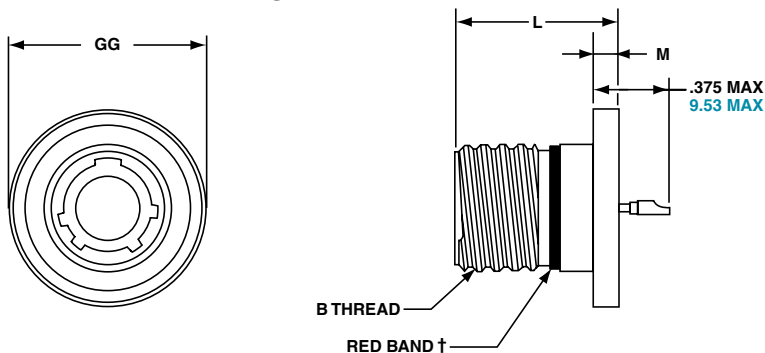
Shell Size	MS Shell Size Code	B Thread Class 2A 0.1P-0.3L-TS (Plated)	L +.011 -0.005	M +.006 -0.005	GG Dia. +.011 -0.010	KK Dia +.011 -0.005
9	A	.6250	.806	.125	.750	.672
11	B	.7500	.806	.125	.844	.781
13	C	.8750	.806	.125	.969	.906
15	D	1.0000	.806	.125	1.094	1.031
17	E	1.1875	.806	.125	1.218	1.156
19	F	1.2500	.806	.125	1.312	1.250
21	G	1.3750	.806	.125	1.438	1.375
23	H	1.5000	.838	.156	1.563	1.500
25	J	1.6250	.838	.156	1.688	1.625

Millimeters

Shell Size	MS Shell Size Code	L +.28 -0.00	M +.15 -0.13	GG Dia. +.28 -0.25	KK Dia +.03 -0.13
9	A	20.47	3.18	19.05	17.07
11	B	20.47	3.18	21.44	19.84
13	C	20.47	3.18	24.61	23.01
15	D	20.47	3.18	27.79	26.19
17	E	20.47	3.18	30.94	29.36
19	F	20.47	3.18	33.32	31.75
21	G	20.47	3.18	36.53	34.93
23	H	21.29	3.96	39.70	38.10
25	J	21.29	3.96	42.88	41.28

TVSHIY (D38999/27) – Hermetic, Stainless Steel

Weld Mounting Receptacle



PART

To complete, see how to order pages 25-27.

Connector Type	Shell Style	Service Class	Shell Size & Insert Arrg	Contact Type	Alternate Position	Special Variations
TVS	HI	Y	9-35	P	B	(453)
TVS	HI	YN	X-X	X	X	(XXX)
D38999/	27	X	X-X	X	X	NA

† Red band indicates fully mated

Inches

Shell Size	MS Shell Size Code	B Thread Class 2A 0.1P-0.3L-TS (Plated)	L +.011 -0.000	M +.006 -0.005	GG Dia. +.011 -0.010
9	A	.6250	.806	.125	.973
11	B	.7500	.806	.125	1.095
13	C	.8750	.806	.125	1.221
15	D	1.0000	.806	.125	1.347
17	E	1.1875	.806	.125	1.434
19	F	1.2500	.806	.125	1.579
21	G	1.3750	.806	.125	1.721
23	H	1.5000	.838	.156	1.886
25	J	1.6250	.838	.156	1.973

Millimeters

Shell Size	MS Shell Size Code	L +.28 -0.00	M +.15 -0.13	GG Dia. +.25 -0.00
9	A	20.47	3.18	24.71
11	B	20.47	3.18	27.81
13	C	20.47	3.18	31.01
15	D	20.47	3.18	34.21
17	E	20.47	3.18	36.42
19	F	20.47	3.18	40.11
21	G	20.47	3.18	43.71
23	H	21.29	3.96	47.90
25	J	21.29	3.96	50.11

All dimensions for reference only

Series III, TV Breakaway Fail Safe Connectors

Quick-Disconnect with an Axial Pull of Lanyard

Amphenol® Tri-Start Breakaway Fail Safe Connectors provide unequalled performance in environments requiring instant disengagement.

Designed to provide quick disconnect of a connector plug and receptacle with an axial pull on the lanyard. The "Breakaway" Fail Safe connector family offers a wide range of electrical and mechanical features:

- Instant decoupling and damage free separation
- Completely interchangeable with standard receptacles (D38999/20 and /24)
- Inventory support commonality through the use of standard insert arrangements and contacts

Breakaway unmating is initiated by applying a pull force to the lanyard which causes the operating sleeve on the plug to move away from the receptacle. Coupling segments on the plug then move away from the mating receptacle while expanding, thus releasing the receptacle. After completion of the unmating sequence, spring compression returns the sleeve and segments to their original positions. Unmating of the plug may also be accomplished by normal rotation of the coupling ring without affecting the breakaway capability.



Amphenol offers a variety of lanyard plug styles including MIL-STD-1760 types 1, 2 and 6 for Stores Management applications.

The Tri-Start Breakaway Fail Safe connector exceeds the MIL-Spec Series III requirements for EMI/EMP shielding and features include:

- Solid metal-to-metal coupling
- EMI grounding fingers
- Conductive finishes

Amphenol Breakaway Fail Safe connectors are qualified to MIL-DTL-38999/29, /30 and /31 (for MIL-STD-1760 Stores Management applications). In fact, Amphenol offers more qualified Breakaway shell size and insert combinations than any other QPL supplier.

In addition to standard Breakaway connectors, Amphenol also manufactures custom breakaway connectors including those with:

- Highly durable non-metallic operating sleeves in a variety of lengths and diameters
- Increased pull-force capability
- Low-profile designs
- Custom lanyard lengths and backshells
- Low force separation capabilities
- Low insertion/separation force contacts
- Non-cadmium finishes

Whether you need a standard Breakaway, one of our custom Breakaways or a unique Breakaway design, please contact your local Amphenol representative.

Contact Amphenol Aerospace for more information on breakaway, quick-disconnect connectors. Other Amphenol circular families (MIL-DTL-26482, MIL-DTL-83723) also offer breakaway quick-disconnect connectors.

See accessories for breakaway connectors on page 111.



Breakaway with Coax Contacts



Special configuration Fail Safe used on space telescope application.

Lanyard is replaced by a swivel ring for remote disconnect and "wing arms" have been added for manual actuation accessibility by gloved astronauts.

38999

III

HD

Dualok

II

I

SJT

Accessories

Aquacon

Herm/Seal

PCB

**HIGH
SPEED**

Fiber
Optics

Contacts
Connectors
Cables

EMI Filter
Transient

26482
Matrix 2

83723 III
Matrix | Pyle

26500
Pyle

5015
Crimp Rear
Release
Matrix

22992
Class 1

Back-
Shells

Options
Others

D38999/29 & D38999/30 – Series III TV Breakaway Fail Safe-Crimp, Metal Lanyard Release Plug

38999

PART

To complete,
see how to order
pages 41-42.

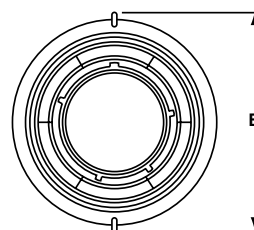
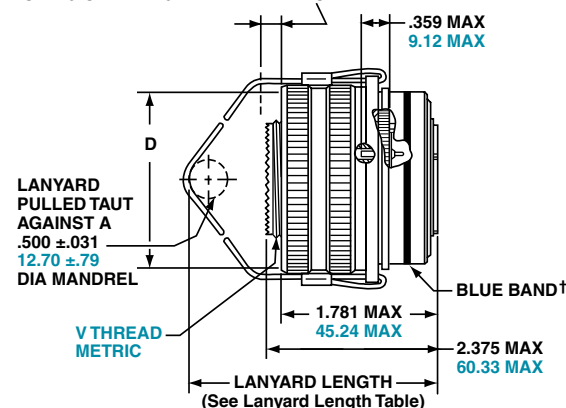
Connector Type	Shell Style	Shell Size & Insert Arrg	Lanyard Length Code	Contact Type/ Alternate Insert Rotation	
D38999	29	29	E	P	(Pins Only)
D38999	30	X-X	X	X	(Sockets Only)
88	5565	X-X	X	X	
91	5565	X-X	X	X	

METAL

.374 MAX

9.50 MAX

OUTER SLEEVE MOVEMENT
DURING UNMATING THREAD RELEASE



† Blue band indicates rear release contact retention system

Inches

Shell Size	MS Shell Size Code	B Max	D Max Accessory Dia.
11	B	1.846	1.109
13	C	1.972	1.250
15	D	2.079	1.375
17	E	2.205	1.500
19	F	2.301	1.625
21	G	2.472	1.750
23	H	2.594	1.875
25	J	2.705	2.000

Millimeters

Shell Size	MS Shell Size Code	B Max	D Max Accessory Dia.	V Thread Metric
11	B	46.89	28.17	M15X1.0-6g
13	C	50.09	31.75	M18X1.0-6g
15	D	52.81	34.93	M22X1.0-6g
17	E	56.01	38.10	M25X1.0-6g
19	F	58.45	41.28	M28X1.0-6g
21	G	62.79	44.45	M31X1.0-6g
23	H	65.89	47.63	M34X1.0-6g
25	J	68.71	50.08	M37X1.0-6g

All dimensions for reference only

TV D38999/29 & D38999/30 – Series III

Breakaway Fail Safe Lanyard Release Plug

Easy Steps to build a part number... **Military**

1.	2.	3.	4.	5.	6.	7.
DOD Number Prefix	Spec Sheet Number	Service Class	Shell Size	Insert Arrangement	Lanyard Length Code	Alternate Keying Position
D38999/	29	F	E	35	P	N

Step 1. DOD Number Prefix

D38999/ designates MIL-DTL-38999, Series III, Tri-Start Connector

Step 2. Select a Specification Sheet Number

29	Designates Lanyard Release Plug with pin contacts
30	Designates Lanyard Release Plug with socket contacts

Step 4. & 5 Insert Availability

Step 3. Select a Service Class

F	Designates electroless nickel plated aluminum, optimum EMI shielding effectiveness –65dB@10 GHz specification min., 48 hour salt spray, 200°C
W	Designates corrosion resistant olive drab cadmium plate aluminum, 500 hour extended salt spray, EMI –50dB@10 GHz specification min., 175°C

Commercial Basic Part# Shell & Insert Arrg. Code	Shell Size- Insert Arrangement	Military Shell Size- Insert Arrangement	Service Rating	Total Contacts	Contact Size						
					22D	20	16	12	12 Coax	8 Coax	8 Twinax
88/91-556508	11-2	N/A	I	2			2				
06	11-35	N/A	M	13	13						
07	11-98	N/A	I	6		6					
10	13-4	N/A	I	4			4				
11	13-8	N/A	I	8		8					
14	13-35	N/A	M	22	22						
13	13-98	N/A	I	10		10					
18	15-5	N/A	II	5			5				
23	15-15	N/A	I	15		14	1				
22	15-18	N/A	I	18		18					
19	15-19	N/A	I	19		19					
20	15-35	N/A	M	37	37						
21	15-97	N/A	I	12		8	4				
27	17-6	E-6	I	6				6			
28	17-8	E-8	II	8			8				
29	17-26	E-26	I	26		26					
30	17-35	E-35	M	55	55						
31	17-99	E-99	I	23		21	2				
37	19-11	F-11	II	11			11				
39	19-32	F-32	I	32		32					
40	19-35	F-35	M	66	66						
47	21-11	G-11	I	11				11			
48	21-16	G-16	II	16			16				
49	21-35	G-35	M	79	79						
51	21-39	G-39	I	39		37	2				
50	21-41	G-41	I	41		41					
57	23-21	H-21	II	21			21				
58	23-35	H-35	M	100	100						
59	23-53	H-53	I	53		53					
61	23-54	H-54	M	53	40		9	4			
60	23-55	H-55	I	55		55					
71	25-4	J-4	I	56		48	8				
66	25-19	J-19	I	19				19			
74	25-20	J-20	N	30		10	13		4		3
72	25-24	J-24	I	24			12	12			
67	25-29	J-29	I	29			29				
68	25-35	J-35	M	128	128						
69	25-43	J-43	I	43		23	20				
73	25-46	J-46	I	46		40	4			2*	
70	25-61	J-61	I	61		61					

38999

III

HD

Dualok

II

I

SJT

Accessories

Aquacon

Herm/Seal

PCB

HIGH SPEED

Fiber Optics

Contacts
Connectors
Cables

EMI Filter
Transient

26482
Matrix 2

83723 III
Matrix | Pyle

26500
Pyle

5015
Crimp Rear
Release
Matrix

22992
Class I

Back-
Shells

Options
Others

38999

III

HD

Dualok

II

I

SJT

Accessories

Aquacon

Herm/Seal

PCB

HIGH
SPEED

Fiber
Optics

Contacts
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26482
Matrix 2

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Matrix | Pyle

26500
Pyle

5015
Crimp Rear
Release
Matrix

22992
Class I

Back-
Shells

Options
Others

Step 6. Military/ Commercial Lanyard Length Code

Table II

Lanyard Length (in.) ± .236	Lanyard Length (mm) ± 6.0	Lanyard Length Code For Part Number
4.016	102	A
4.528	115	B
5.000	127	C
5.512	140	D
6.024	153	E
6.535	166	F
7.008	178	G
7.520	191	H
7.992	203	I
8.503	216	J
9.016	229	K
9.528	242	L
10.000	254	M
10.512	267	N
11.024	280	P
11.535	293	R
12.008	305	S
12.520	318	T
13.031	331	U
14.016	356	V
15.000	381	W
16.024	407	X
17.008	432	Y
18.031	458	Z

Step 7. Military Alternate Keying Position

For alternate positions of connector (to prevent cross-mating) see alternate positioning on page 27. (N indicates normal)

Easy Steps to build a part number... Commercial

FAIL SAFE 88-5565() & 91-5565()

Ordering procedure for example part number 88-556529-EP is shown below:

1.	2.	3.	4.	5.	6.
Service Class	Connector Type Identification	Shell Size & Insert Arrg. Code	Required Field	Lanyard Length Code	Contact Type/Alternate Keying Position
88	5565	29	0	E	P

Step 1. Select a Service Class

88	Designates corrosion resistant olive drab cadmium plate over nickel, 500 hour extended salt spray, EMI -50dB @ 10 GHz specification min., 175°C
91	Designates electroless nickel plated aluminum, optimum EMI shielding effectiveness -65dB @ 10 GHz specification min., 48 hour salt spray, 200°C

These are standard finishes. Consult Amphenol Aerospace for other variations.

Step 2. Select a Connector Type Identification

5565	Designates MIL-DTL-38999, Series III Tri-Start Lanyard Release Plug
------	---

Step 3. Select a Commercial Shell Size & Insert Arrangement Code

MIL-DTL-38999, see insert availability chart on page 41.

Step 4. Required Field

0	The required field is always a 0
---	----------------------------------

Step 5. Select a Lanyard Length Code

See Table II (to the left) for lanyard length code number.

Step 6. Select a Contact Type/Alternate Keying Position

P designates pin, S designates socket for normal positioning of contacts. When an alternate position of the connector is required to prevent cross-mating, a different letter (other than P or S) is used. See alternate positioning on page 27, then convert to Amphenol Commercial coding by the following chart.

Pin Contacts		Socket Contacts	
MS Letter	Amphenol letter	MS Letter	Amphenol Letter
PN	P (normal)	SN	S (normal)
PA	G	SA	H
PB	I	SB	J
PC	K	SC	L
PD	M	SD	N
PE	R	SE	T

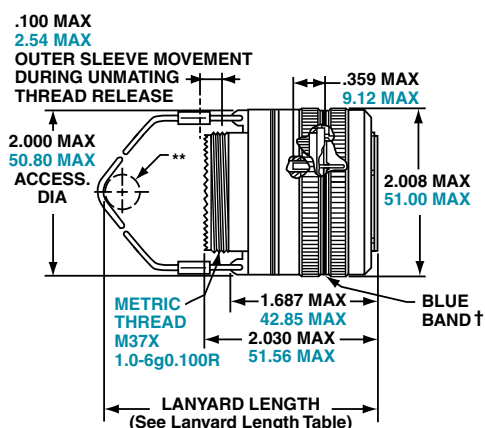
Lanyard Release Plug

PIN CONTACTS ONLY,
SHELL SIZE 25 ONLY

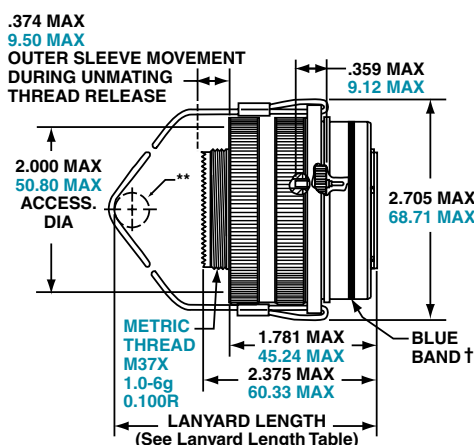
*Part number reference.
To complete, see how to order
page 41.

D38999/31
88-555875/76 Type 6
91-555875/76
88-558518/19 Type 2
91-558518/19
T3W-16B25-XXXX — Type 1

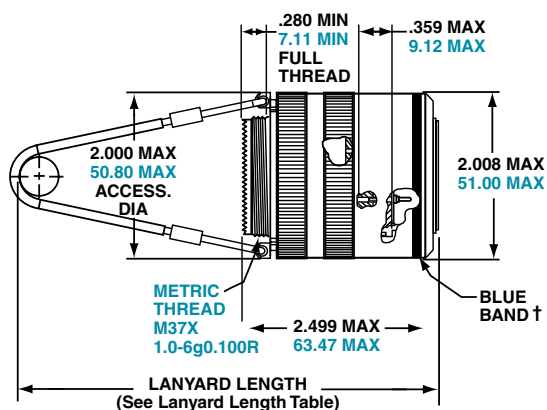
*To order by Commercial Part
numbers consult Amphenol.



TYPE 6



TYPE 2



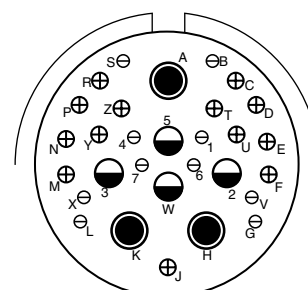
TYPE 1
(LONGER SHELL)

† Blue band indicates rear release
contact retention system
** Lanyard pulled taut against a
.500 ± .13 dia. Mandrel
All dimensions for reference only

Tri-Start Lanyard Separation Forces

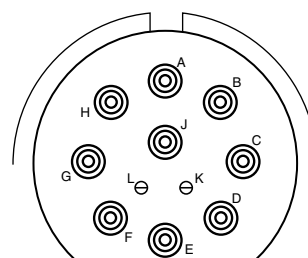
Shell Size	Straight Plug (lbs. max.)	15 Degree Pull (lbs. max.)
25	90	100

**INSERT AVAILABILITY
FAIL SAFE D38999/31
FOR MIL-STD-1760**



25-20

Primary Interface Signal Set



25-11

Auxiliary Power Signal Set

Contact Legend: 8 (twinax) 10 (power) 12 (coax) 16 20

Pin Contact Data for MIL-STD-1760

Insert Arrangement	Service Rating	Total Contacts	Contact			
			20	16	12 (Coax)	8 (Twinax)
25-20	N	30	10	13	4	3

Contacts for 25-20 Pattern

Shell Size	Arrg. Number	Number of Contacts	Size Contacts	Service Rating	Contact Location	Standard Contacts	
						Pin	Socket
25	-20	3	8	Twinax	A, H, K	M39029/90-529	M39029/91-530
		4	12	Coax	2,3 W, 5	M39029/28-211 M39029/102-558	M39029/75-416 M39029/103-559
		13	16	N	C, D, E, F, J, M, N, P, R, T, U, Y, Z	M39029/58-364	M39029/56-352
		10	20	N	B, G, L, S, V, X, 1, 4, 6, 7	M39029/58-363	M39029/56-351

Insert Arrangement	Service Rating	Total Contacts	Contact Size	
			20	10 (power)
25-11	N	11	2	9

38999

III

HD

Dualok

II

I

SJT

Accessories

Aquacon

Herm/Seal

PCB

HIGH
SPEED

Fiber
Optics

Contacts
Connectors
Cables

EMI Filter
Transient

26482
Matrix 2

83723 III
Matrix | Pyle

26500
Pyle

5015
Crimp Rear
Release
Matrix

22992
Class I

Back-
Shells

Options
Others

HOW TO ORDER - BY MILITARY PART NUMBER FAIL SAFE D38999/31

Ordering procedure for example part number D38999/31WE20PN1 is shown below:

Easy Steps to build a part number... Military

1.	2.	3.	4.	5.	6.	7.	8.
DOD Number Prefix	Spec Sheet Number	Service Class	Lanyard Length Code	Insert Arrangement	Contact Style	Alternate Keying Position	Type Number
D38999/	31	W	E	20	P	N	1

1. Select a DOD Number Prefix

	Designates
D38999/	MIL-DTL-38999, Series III Tri-Start Connectors

2. Specification Sheet Number

	Designates
31	Designates Lanyard Release Plug for MIL-STD-1760 with pin contacts

3. Select a Service Class

	Designates
F	Electroless nickel plated aluminum, optimum EMI shielding effectiveness –65dB @ 10 GHz specification min., 48 hour salt spray, 200°C
W	Corrosion resistant olive drab cadmium plate aluminum, 500 hour extended salt spray, EMI –50dB @ 10 GHz specification min., 175°C

4. Select a Lanyard Length Code

Lanyard Length (in.) ±.236	Lanyard Length (mm.) ± 6.0	Lanyard Length Code for Part Number
6.024	153.0	E
6.535	166.0	F
7.008	178.0	G
7.520	191.0	H
7.992	203.0	I
8.504	216.0	J
9.016	229.0	K
9.528	242.0	L

5. Select an Insert Arrangement

Only 11 or 20 are available contact arrangement numbers. See page 43.

6. Contact Style – P & A are Valid Options

	Designates
P	Replaces the “no designation” option in the PIN on revision C and earlier revision of the Mil-Spec.
A	Designates supplied less contacts.

7. Alternate Keying Position

	Designates
N	Is required for normal position.

8. Type Number

Type 1, 2 or 6. See drawings on page 43.

For accessories for lanyard release plugs see Accessories section.

D38999 Type Hybrid Breakaway – Series III

Lower Profile Lanyard Release Plug, Crimp,

Metal shells with Composite Operating Sleeve

New Hybrid Lanyard Breakaway Fail Safe connector with a composite thermoplastic outer operating sleeve for greater durability.

This new hybrid breakaway is the breakaway of choice for the Navy F-18 Program. Amphenol's hybrid lanyard design offers greater durability over D38999 aluminum and composite designs because of its ability to handle abuse taken after weapons release.

Other advantages include:

- Lower profile compared to full metal breakaway Fail Safe connectors
- Less weight

This Hybrid Breakaway meets the applicable requirements of MIL-DTL-38999/31 including random & sine vibration, ice resistance, fluid immersion and hydrolytic stability tests. (Test reports are available upon request).

Currently the hybrid breakaway is available in shell sizes 25 and 17. It uses standard inserts available for breakaway plugs sizes 25 and 17, and is also available with inserts 25-20 and 25-11 for MIL-STD-1760. Consult Amphenol Aerospace for ordering of the new hybrid breakaway connectors. These hybrid connectors will accommodate the standard backshells for breakaway connectors shown on Accessories section or the backshell section.



**New Hybrid Lanyard Release Plugs
(Metal inside shells and Composite,
lower profile outer sleeves)**

Condition/Test	Description	Reference
Durability	400 complete mating/unmating cycles	MIL-DTL-38999/31D
High Impact Shock	Nine hammer blows from 1,3 and 5 feet, three each in three axes on mounting panel.	MIL-S- 901D
Vibration	10 to 2000Hz in three perpendicular axes, 4 hours in each axis for a total of 12 hours with no fracturing or breaking of parts.	MIL-STD-202F, Method 204
Ice Resistance	Pull tested after conditioned with Ice water at -18C for 35 minutes.	MIL-DTL-38999/31D
Fail Safe Disengagement	Rotationally unmated 180° from full mate position and pull tested in both a straight direction and at 15°.	MIL-DTL-38999/31D
High Speed Pull Separation	100 cycles at 30 feet per second.	MIL-DTL-38999/31D

Stores Management Type II, Rail Launch

Plugs and Receptacles that meet MIL-STD-1760

Amphenol provides a Breakaway Rail Launch connector that is designed for use on aircraft that carry rail launch missiles such as AMRAAM.

These connectors are designed for blindmating of stores on rail launch applications. They consist of a buffer plug and a missile receptacle that meet the specifications of MIL-STD-1760 Stores Management.

Other features and benefits include:

- Designed to MIL-C-83538 specifications
- Bayonet and push pull coupling
- Use standard MIL-DTL-38999 crimp termination with power, coax and twinax contacts also available
- Buffer provides flame barrier
- Buffers are replaceable

Consult Amphenol Aerospace for more information and ordering.



**Stores Management Type II
Rail Launch Connectors**

38999

III

HD

Duallok

II

I

SJT

Accessories

Aquacon

Herm/Seal

PCB

**HIGH
SPEED**

Fiber
Optics

Contacts
Connectors
Cables

EMI Filter
Transient

26482
Matrix 2

83723 III
Matrix | Pyle

26500
Pyle

5015
Crimp Rear
Release
Matrix

22992
Class I

Back-
Shells

Options
Others

Amphenol HD38999 High Density

Goes from 9 to 187 contacts!

The HD38999 family of connectors has 30% more contact density than the highest density Mil Spec 38999 connectors of its size. This series of connectors was designed to utilize mil-specified 38999 components with the exception of the contacts and inserts arrangement. Utilizing existing mil-qualified 39029 size 23 contacts and 38999 insert materials, these connectors are essentially a drop-in replacement for the standard 38999 connector.

This connector design benefits users in a couple of different ways. For those users who need to increase the amount of contacts in their application, the HD38999 series allows them to do so without increasing the size of their connector.

For users who are looking to decrease the overall size of their system, they can do so by using smaller shell sizes without decreasing the number of contacts.

Amphenol has qualified this series of connectors to the requirements of MIL -DTL-38999. Amphenol also manufactures this high density series in Filter, Hermetic and customized versions to fit our customers' needs. Please contact us if additional information is required.



HD38999 Connectors available styles:

- Aluminum
- Composite
- Stainless Steel
- Sealed (IP67)
- Filtered



For more information e-mail:

hd38999info@amphenol-aao.com

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- Contacts-Rating18

HD38999 Shell Styles

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- Wall Mounting Double Flange Receptacle (Printed Circuit Board Mount) TVP40/CTVP4049
- Line Receptacle TV01/CTV0150
- Box Mounting Receptacle TVP02/CTVP02.50
- Jam Nut Receptacle TV07/CTV0751
- Reduced Flange Jam Nut Receptacle TV9751
- Jam Nut Double Flange Receptacle TVP47/CTVP47.52
- Straight Plug with Integral Backshell TV9652
- Straight Plug TV06/CTV0653
- CLUTCH-LOK™ Plug TV26.53
- Custom Designed HD38999 and Alignment Disks54



MIL-DTL-38999 Series III Typical Markets:

- Military & Commercial Aviation
- Military Vehicles
- C4ISR

Amphenol
Aerospace

Easy Steps to build a part number... HD38999

1.	2.	3.	4.	5.	6.	7.
Connector Type	Shell Styles	Service Class	Shell Size – Insert Arrangement	Contact Type	Alternate Positions	PCB Options
TV or PTV (Potted version)	06	RW	23-151	P	B	(P25)



Step 1. Select a Connector Type

	Designates
P (prefix for Potted)	
TV	Tri-Start Series Connector
TVP	Back panel mounted receptacle
MTV	CLUTCH-LOK high vibration plug connector (Note: remove dashes in how to order part number when ordering CLUTCH-LOK)
CTV	Tri-Start Composite Series connector
CTVP	Panel mounted composite receptacle

Step 2. Select a Shell Style

	Designates
00	Wall mount receptacle
40	Wall mount double flange receptacle
01	Line receptacle
02	Box mount receptacle - Consult Amphenol for availability
06	Straight plug
07	Jam nut receptacle
47	Jam nut double flange receptacle
26	Proprietary CLUTCH-LOK high vibration straight plug (service Class RK)
97	Reduced flange jam nut receptacle (not available in composite)
96	Straight plug with integral backshell (not available in composite)

Step 3. Select a Service Class

	Designates
RF	Electroless nickel plated aluminum, optimum EMI shielding effectiveness -65dB @ 10GHz specification min., 48 hour salt spray, 175°C
RW	Corrosion resistant olive drab cadmium plate aluminum, 500 hour extended salt spray, EMI -50dB @ 10GHz specification min., 175°C
RL	Corrosion resistant stainless steel, electro-deposited nickel, 48 hours salt spray, 175°C, non-firewall
RK	Corrosion resistant stainless steel, firewall capability, plus 500 hour salt spray resistance, EMI -45 dB @ 10 GHz specification min., 175°C
DT	Durmalon plated, alternative to cadmium. Corrosion resistant, 500 hour extended salt spray EMI -50dB @ 10GHz specification min. without CR ⁶
DZ	Zinc-Nickel alternative to cadmium. Corrosion resistant, 500 hour salt spray, conductive, -65°C to +175°C



Step 4. Select a Shell Size – Insert Arrangement

Shell Sizes are MIL-DTL-38999, Series III, with the newer High Density insert arrangements chart on page 6-9 and illustrations on page 48.

Shell Size	Insert Arrangement
9-	9
11-	19
13-	32
15-	55
17-	73
19-	88
21-	121
23-	151
25-	187

Step 5. Select a Contact Type

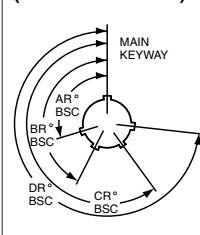
	Designates
P	Pin contacts
S	Socket contacts

Step 6. Select an Alternate Position

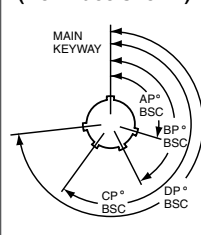
A, B, C, D, E or blank for normal.

Shell Size	Key & keyway arrangement identification letter	AR° or AP° BSC	BR° or BP° BSC	CR° or CP° BSC	DR° or DP° BSC
9	N	105	140	215	265
	A	102	132	248	320
	B	80	118	230	312
	C	35	140	205	275
	D	64	155	234	304
11, 13, and 15	E	91	131	197	240
	N	95	141	208	236
	A	113	156	182	292
	B	90	145	195	252
	C	53	156	220	255
17 and 19	D	119	146	176	298
	E	51	141	184	242
	N	80	142	196	293
	A	135	170	200	310
	B	49	169	200	244
21, 23, and 25	C	66	140	200	257
	D	62	145	180	280
	E	79	153	197	272
	N	80	142	196	293
	A	135	170	200	310

RECEPTACLE (front face shown)



PLUG (front face shown)



A plug with a given rotation letter will mate with a receptacle with the same rotation letter. The angles for a given connector are the same whether it contains pins or sockets. Inserts are not rotated in conjunction with the master key/keyway.

Step 7. Select a PCB Contact Option

Pin Contacts	Pin Contacts with Alignment Disc*	Socket Contacts	Socket Contacts with Alignment Disc**	PCB tail stickout +/- .040 inch
P1*	P1AD	S1	S1AD	.100" nominal
P15*	P15AD	S15	S15AD	.150" nominal
P2	P2AD	S2	S2AD	.200" nominal
P25*	P25AD	S25	S25AD	.250" nominal
P3*	P3AD	S3	S3AD	.300" nominal
P35	P35AD	S35	S35AD	.350" nominal

* Not available in TV40 wall mount double flange receptacle or TV47 jam nut double flange receptacle styles.

** See page 54 for more information on alignment discs for HD38999 connectors.

Note: Standard tail diameter is 0.019 ± 0.01

Stick out is measured from the end of the connector shell to end of the contact

38999

III
HD
Dualok
II
I
SJT
Accessories
Aquacon
Herm/Seal
PCB

HIGH SPEED
Fiber Optics
Contacts
Connectors
Cables

EMI Filter
Transient

26482
Matrix 2
83723 III
Matrix | Pyle

26500
Pyle

5015
Crimp Rear
Release
Matrix

22992
Class 1

Back-
Shells

Options
Others

38999

Contacts & Tools

Contact Part Numbers:

Size 23 Sockets 10-597330-735 (M39029/17-172)
Size 23 Pins 10-597331-735 (M39029/18-177)
Sealing Plugs 10-405996-222 (MS27488-22-2)

Crimp Barrel Dia.:

(Inches) .034-.036

Crimp Barrel Depth:

(Inches) .151-.155

Tools:

Crimp Tool: Daniels M22520/2-01
Positioner: Daniels M22520/2-16 Socket
Daniels M22520/2-13 Pin
Insertion Tool: Daniels DAK225-22
Removal Tool: Daniels DRK225-22
Insertion/Removal Tool: M81969/16-04 (Plastic)

Note: Wire insulation diameter greater than 0.045 is too large for the extraction tool to work properly. Connector damage is possible.

Technical Data

HD38999 series was designed to meet and/or exceed the specifications of MIL-DTL-38999. The connector series has been tested to all the requirements of 38999 with the use of AS39029 size 23 contacts. Test reports are available upon request. The following is a summary of some of the performance requirements.

EMI Shielding Effectiveness:

Solid metal-to-metal coupling, EMI grounding fingers and conductive finishes have proven to be the ultimate in EMI/EMP shielding effectiveness. The charts on page 24 illustrated shielding effectiveness data which is typical in HD38999 connectors as well as MIL-DTL-38999 connectors.

Electrical:

22 AWG: 5.0 AMPS
24 AWG: 3.0 AMPS
26 AWG: 2.0 AMPS
28 AWG: 1.5 AMPS
Insulation Resistance: 5000 megohms min. @500 VDC 25C
Dielectric Withstanding Voltage: 1000 VRMS @sea level

Environmental:

Operating Temperature: -65°C to +175°C

Salt Spray:
Metallized: Electroless Nickel: 48 hours
Anodic Coating, O. D. Cadmium, Durmalon, Zinc Nickel: 500 hours

Salt Spray Composite: Electroless Nickel: 1000 hours
O. D. Cadmium, Durmalon, Zinc Nickel: 500 hours

Mechanical:

Metallic Shells: Material: Aluminum Alloy, Stainless Steel
Protection: Electroless Nickel, O.D. Cadmium, Durmalon (Nickel PTFE), Zinc Nickel

Composite Shells: Material: Thermoplastic
Protection: Electroless Nickel, O.D. Cadmium, Durmalon (Nickel PTFE), Zinc Nickel

Contacts: Material: Copper Alloy
Protection: Gold over Nickel

Insert Retention to Shell: 100 psi in axial load

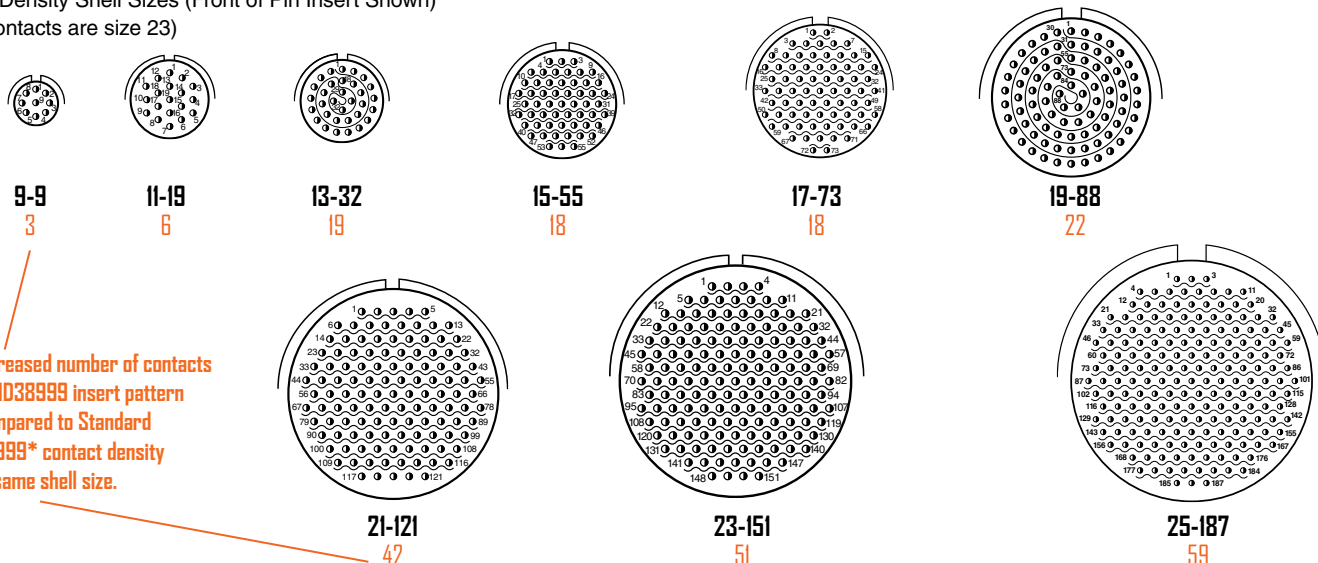
Durability: 500 full mating and unmating cycles

Vibration: 60G sine per MIL-DTL-38999L Para 4.5.23.2.1
5G2 Random per EIA-364-28E, Test condition A
1G2 Random per EIA-364-28E, Test condition I

Shock: Per EIA-364-27B, 300g

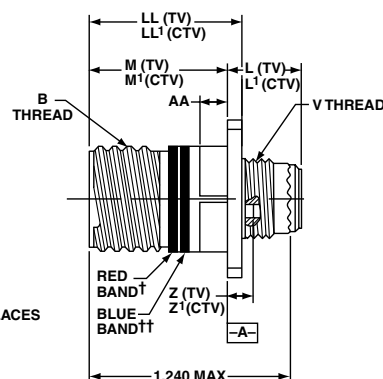
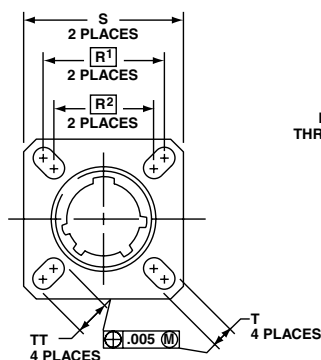
HD38999 Insert Availability

High Density Shell Sizes (Front of Pin Insert Shown)
(all contacts are size 23)

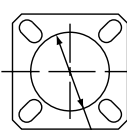


Wall Mounting Receptacle

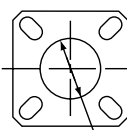
TVP00() - Crimp, Metal
CTVP00() - Crimp, Composite



PANEL HOLE DIMENSIONS



BACK PANEL MOUNTING



FRONT PANEL MOUNTING

See how to build a part number on pages 47

† Red band indicates fully mated

†† Blue band indicates rear release contact retention system.

Shell Size	MS Shell Size Code	B Thread Class 2A 0.1P-0.3L-TS (Plated)	L Max. (TV)	L' Max. (CTV)	M +.000 - .005 (TV)	M' +.000 - .005 (CTV)	R1	R2	S Max.	T ±.008	Z Max. (TV)	Z' Max. (CTV)	A' Back Panel Mount	A' Front Panel Mount	AA Max. Panel Thickness	LL +.006 - .000 (TV)	LL1 ±.005 (CTV)	TT ±.008
9	A	.6250	.469	.520	.820	.773	.719	.594	.948	.128	.153	.198	.650	.510	.234	.905	.908	.216
11	B	.7500	.469	.520	.820	.773	.812	.719	1.043	.128	.153	.198	.800	.620	.234	.905	.908	.194
13	C	.8750	.469	.520	.820	.773	.906	.812	1.137	.128	.153	.198	.910	.740	.234	.905	.908	.194
15	D	1.0000	.469	.520	.820	.773	.969	.906	1.232	.128	.153	.198	1.040	.900	.234	.905	.908	.173
17	E	1.1875	.469	.520	.820	.773	1.062	.969	1.323	.128	.153	.198	1.210	1.010	.234	.905	.908	.194
19	F	1.2500	.469	.520	.820	.773	1.156	1.062	1.449	.128	.153	.198	1.280	1.130	.234	.905	.908	.194
21	G	1.3750	.500	.552	.790	.741	1.250	1.156	1.575	.128	.183	.228	1.410	1.250	.204	.905	.904	.194
23	H	1.5000	.500	.552	.790	.741	1.375	1.250	1.701	.154	.183	.228	1.530	1.360	.204	.905	.904	.242
25	J	1.6250	.500	.552	.790	.741	1.500	1.375	1.823	.154	.183	.228	1.660	1.470	.204	.905	.904	.242

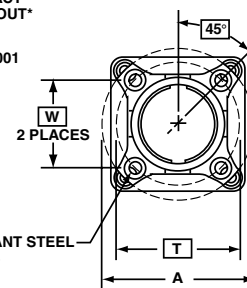
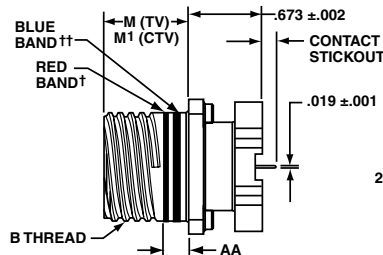
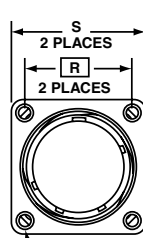
All dimensions for reference only

HD38999 High Density Connectors

TVP40/CTVP40

Wall Mounting Double Flange Receptacle (Printed Circuit Board Mount)

TVP40() - Crimp, Metal
CTVP40() - Crimp, Composite



See how to build a part number on pages 47

* Contact stickout: see Step 7 of how to order on page 47.

† Red band indicates fully mated

†† Blue band indicates rear release contact retention system.

(4) CORROSION RESISTANT STEEL
.112-40 UNC-3B SELF-LOCKING
CLINCH NUTS PER MIL-N-45938/6-4C
EXCEPT FOR TV40 SHELL SIZES 23 & 25:
.138-32 UNC-3B PER MIL-N-45938/6-6C

(4) CORROSION RESISTANT STEEL
.112-40 UNC-3B INSERTS

Shell Size	MS Shell Size Code	A Dia. ±.005 (TV)	A Dia. ±.005 (CTV)	B Thread Class 2A 0.1P-0.3L-TS (Plated)	M +.000 - .005 (TV)	M' ±.003 (CTV)	R (Panel Mount) (CTV)	R (Panel Mount) (TV)	S Max. (TV)	S Max. (CTV)	AA Max. Panel Thickness	PCB Mounting Dimensions	
												T Dia. (TV) TP	W (CTV) TP
9	A	1.016	1.016	.6250	.820	.770	.719	NA	1.094	.949	.234	.752	.532
11	B	1.062	1.148	.7500	.820	.770	.812	.766	1.187	1.042	.234	.850	.601
13	C	1.250	1.250	.8750	.820	.770	.906	.859	1.281	1.136	.234	.994	.703
15	D	1.375	1.375	1.0000	.820	.770	.969	.938	1.344	1.230	.234	1.119	.791
17	E	1.500	1.500	1.1875	.820	.770	1.062	1.016	1.437	1.323	.234	1.237	.875
19	F	1.625	1.625	1.2500	.820	.770	1.156	1.110	1.531	1.449	.234	1.379	.975
21	G	1.750	1.750	1.3750	.820	.738	1.250	1.206	1.625	1.573	.204	1.489	1.053
23	H	1.875	1.875	1.5000	.820	.738	1.375	1.312	1.750	1.699	.204	1.619	1.195
25	J	2.000	2.000	1.6250	.820	.738	1.500	1.438	1.875	1.823	.204	1.744	1.233

All dimensions for reference only

38999

HD

Dualok

II

I

SJT

Accessories

Aquacon

Herm/Seal

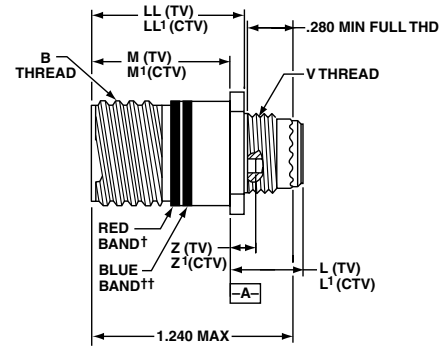
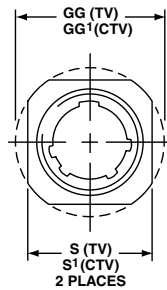
PCB

TV01() - Crimp, Metal
CTV01() - Crimp, Composite

See how to build a part number on pages 47

† Red band indicates fully mated

†† Blue band indicates rear release contact retention system.



Inches

Shell Size	MS Shell Size Code	B Thread 0.1P-0.3L-TS-2A (Plated)	M +.000 - .005 (TV)	M' +.000 - .005 (CTV)	L Max. (TV)	L' Max. (CTV)	S ±.010 (TV)	S' ±.010 (CTV)	Z Max (TV)	Z' Max (CTV)	GG ±.010 (TV)	GG' ±.010 (CTV)	LL +.006 - .000 (TV)	LL' ±.005 (CTV)
9	A	.6250	.820	.773	.469	.520	.675	.635	.153	.198	.812	.699	.905	.908
11	B	.7500	.820	.773	.469	.520	.800	.765	.153	.198	.905	.875	.905	.908
13	C	.8750	.820	.773	.469	.520	.925	.885	.153	.198	1.093	1.007	.905	.908
15	D	1.0000	.820	.773	.469	.520	1.050	1.100	.153	.198	1.219	1.140	.905	.908
17	E	1.1875	.820	.773	.469	.520	1.238	1.197	.153	.198	1.375	1.229	.905	.908
19	F	1.2500	.820	.773	.469	.520	1.300	1.260	.153	.198	1.469	1.380	.905	.908
21	G	1.3750	.790	.741	.500	.552	1.425	1.385	.183	.228	1.625	1.493	.905	.904
23	H	1.5000	.790	.741	.500	.552	1.550	1.510	.183	.228	1.750	1.626	.905	.904
25	J	1.6250	.790	.741	.500	.552	1.675	1.635	.183	.228	1.875	1.777	.905	.904

All dimensions for reference only

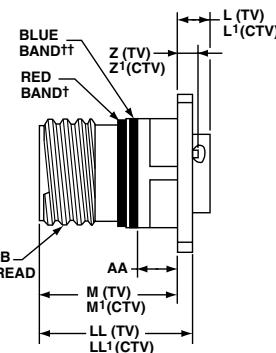
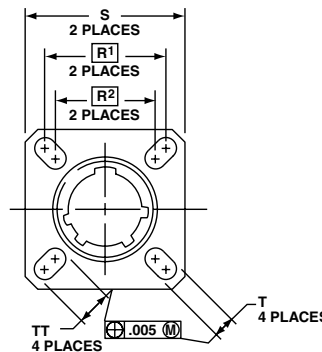
HD38999 High Density Connectors

TVP02/CTVP02

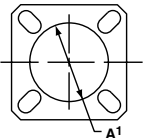
Box Mounting Receptacle

** See availability note below

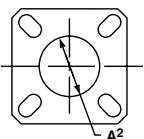
TVP02() - Crimp, Metal
CTVP02() - Crimp, Composite



PANEL HOLE DIMENSIONS



BACK PANEL MOUNTING



FRONT PANEL MOUNTING

Inches

See how to build a part number on pages 47

† Red band indicates fully mated

†† Blue band indicates rear release contact retention system.

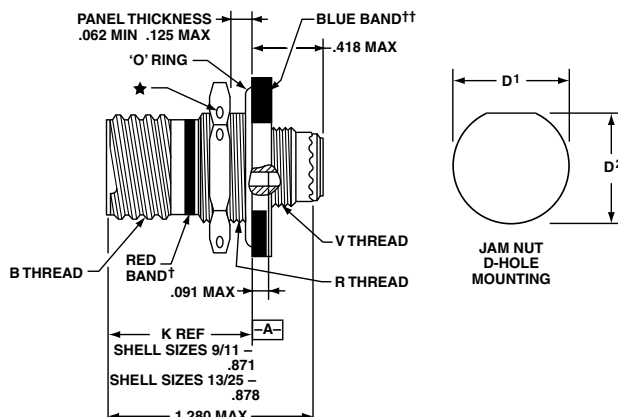
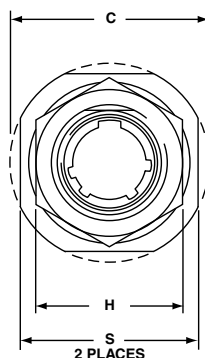
**Consult Amphenol Aerospace for availability for box mount receptacles.

Shell Size	MS Shell Size Code	B Thread Class 2A 0.1P-0.3L-TS (Plated)	L Max. (TV)	L' Max. (CTV)	M +.000 - .005 (TV)	M' +.000 - .005 (CTV)	R1	R2	S Max. (TV)	T ±.008 (TV)	Z Max. (TV)	Z' Max. (CTV)	A1 Back Panel Mount	A2 Front Panel Mount	AA Max. Panel Thickness	LL +.006 - .000 (TV)	LL1 ±.005 (CTV)	TT ±.008
9	A	.6250	.205	.250	.820	.773	.719	.594	.948	.128	.153	.198	.650	.510	.234	.905	.908	.216
11	B	.7500	.205	.250	.820	.773	.812	.719	1.043	.128	.153	.198	.800	.620	.234	.905	.908	.194
13	C	.8750	.205	.250	.820	.773	.906	.812	1.137	.128	.153	.198	.910	.740	.234	.905	.908	.194
15	D	1.0000	.205	.250	.820	.773	.969	.906	1.232	.128	.153	.198	1.040	.900	.234	.905	.908	.173
17	E	1.1875	.205	.250	.820	.773	1.062	.969	1.323	.128	.153	.198	1.210	1.010	.234	.905	.908	.194
19	F	1.2500	.205	.250	.820	.773	1.156	1.062	1.449	.128	.153	.198	1.280	1.130	.234	.905	.908	.194
21	G	1.3750	.235	.280	.790	.741	1.250	1.156	1.575	.128	.183	.228	1.410	1.250	.204	.905	.904	.194
23	H	1.5000	.235	.280	.790	.741	1.375	1.250	1.701	.154	.183	.228	1.530	1.360	.204	.905	.904	.242
25	J	1.6250	.235	.280	.790	.741	1.500	1.375	1.823	.154	.183	.228	1.660	1.470	.204	.905	.904	.242

All dimensions for reference only

Jam Nut Receptacle

TV07() - Crimp, Metal
CTV07() - Crimp, Composite



See how to build a part number on pages 47

† Red band indicates fully mated

†† Blue band indicates rear release contact retention system.

★ .059 dia. min., 3 lockwire holes. Formed lockwire hole design (6 holes) is optional

Shell Size	MS Shell Size Code	B Thread Class 2A 0.1P-0.3L-TS (Plated)	C Max.	D ¹ +.010 - .000	D ² +.000 - .010	H Hex +.017 - .016	S ±.010	V Thread Metric	R Thread (Plated) 9-7543
9	A	.6250	1.199	.693	.657	.875	1.062	M12X1-6g	M17X1-6g
11	B	.7500	1.386	.825	.770	1.000	1.250	M15X1-6g	M20X1-6g
13	C	.8750	1.511	1.010	.955	1.188	1.375	M18X1-6g	M25X1-6g
15	D	1.0000	1.636	1.135	1.085	1.312	1.500	M22X1-6g	M28X1-6g
17	E	1.1875	1.761	1.260	1.210	1.438	1.625	M25X1-6g	M32X1-6g
19	F	1.2500	1.949	1.385	1.335	1.562	1.812	M28X1-6g	M35X1-6g
21	G	1.3750	2.073	1.510	1.460	1.688	1.938	M31X1-6g	M38X1-6g
23	H	1.5000	2.199	1.635	1.585	1.812	2.062	M34X1-6g	M41X1-6g
25	J	1.6250	2.323	1.760	1.710	2.000	2.188	M37X1-6g	M44X1-6g

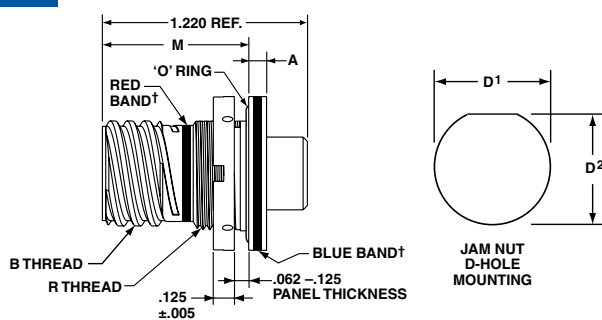
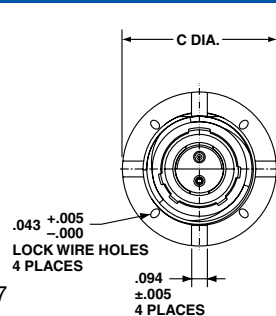
All dimensions for reference only

HD38999 High Density Connectors

TV97

Reduced Flange Jam Nut Receptacle

TV97() - Crimp, Metal



See how to build a part number on pages 47

† Red band indicates fully mated

†† Blue band indicates rear release contact retention system.

Shell Size	MS Shell Size Code	B Thread Class 2A 0.1P-0.3L-TS (Plated)	A +.010 - .005	C Dia. Max.	D ¹ +.010 - .000	D ² +.000 - .010	M	R Thread (Plated) 9-7543
9	A	.6250	.104	.915	.693	.657	.871	M17X1-6g
11	B	.7500	.104	1.042	.825	.770	.871	M20X1-6g
13	C	.8750	.104	1.240	1.010	.955	.878	M25X1-6g
15	D	1.0000	.104	1.357	1.135	1.085	.878	M28X1-6g
17	E	1.1875	.104	1.630	1.260	1.210	.878	M32X1-6g
19	F	1.2500	.135	1.816	1.385	1.335	.878	M35X1-6g
21	G	1.3750	.135	1.942	1.510	1.460	.878	M38X1-6g
23	H	1.5000	.135	2.067	1.635	1.585	.878	M41X1-6g
25	J	1.6250	.135	2.190	1.760	1.710	.878	M44X1-6g

All dimensions for reference only

38999

III

HD

Dualok

II

I

SJT

Accessories

Aquacon

Herm/Seal

PCB

HIGH SPEED

Fiber Optics

Contacts
Connectors
Cables

EMI Filter
Transient

26482
Matrix 2

83723 III
Matrix | Pyle

26500
Pyle

5015
Crimp Rear Release Matrix

22992
Class 1

Back-Shell

Options
Others

38999

III

HD

Dualok

II

I

SJT

Accessories

Aquacon

Herm/Seal

PCB

HIGH
SPEED

Fiber
Optics

Contacts
Connectors
Cables

EMI Filter
Transient

26482
Matrix 2

83723 III
Matrix | Pyle

26500
Pyle

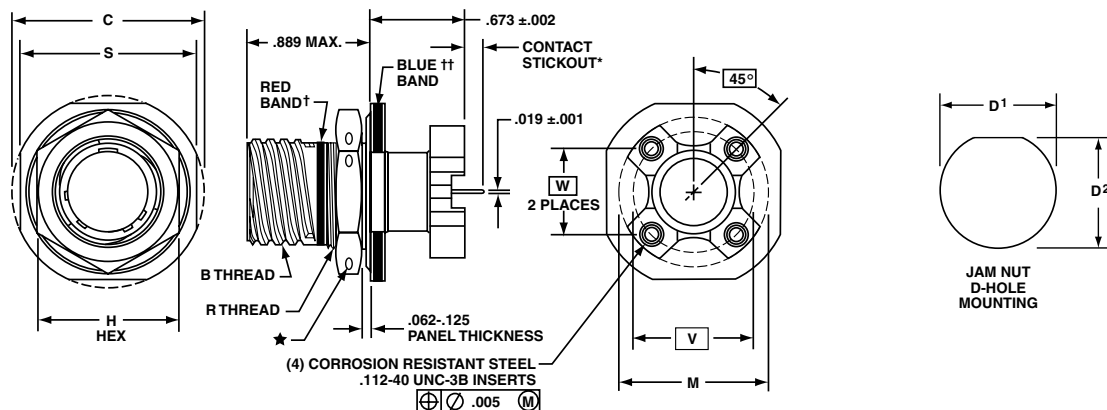
5015
Crimp Rear
Release
Matrix

22992
Class L

Back-
Shells

Options
Others

TV47() - Crimp, Metal
CTV47() - Crimp, Composite



See how to build a part number on pages 47

* Contact stickout dimension: see Step 7 of how to order on page 47.

† Red band indicates fully mated

†† Blue band indicates rear release contact retention system.

★ .059 dia. min., 3 lockwire holes. Formed lockwire hole design (6 holes) is optional

Inches

Shell Size	MS Shell Size Code	B Thread Class 2A 0.1P-0.3L-TS (Plated)	C ±.005 (Jam Nut Flange Dia.)	D1 +.010 -.000	D2 +.000 -.010	H Hex +.017 -.016	M Dia. ±.005	R Thread Metric (Plated)	S +.011 -.010	PCB Mounting Dimensions	
										V Dia. (TV) TP	W (CTV) TP
9	A	.6250	1.188	.700	.670	.875	1.016	M17X1-6g0.100R	1.062	.753	.532
11	B	.7500	1.375	.825	.770	1.000	1.148	M20X1-6g0.100R	1.250	.850	.601
13	C	.8750	1.500	1.010	.955	1.188	1.250	M25X1-6g0.100R	1.375	.994	.703
15	D	1.0000	1.625	1.135	1.085	1.312	1.375	M28X1-6g0.100R	1.500	1.119	.791
17	E	1.1875	1.750	1.260	1.210	1.438	1.500	M32X1-6g0.100R	1.625	1.237	.875
19	F	1.2500	1.937	1.385	1.335	1.562	1.625	M35X1-6g0.100R	1.812	1.379	.975
21	G	1.3750	2.062	1.510	1.460	1.688	1.750	M38X1-6g0.100R	1.937	1.489	1.053
23	H	1.5000	2.188	1.635	1.585	1.812	1.875	M41X1-6g0.100R	2.062	1.644	1.145
25	J	1.6250	2.312	1.760	1.710	2.000	2.000	M44X1-6g0.100R	2.188	1.744	1.233

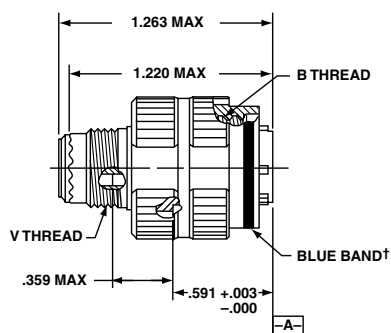
All dimensions for reference only

TV06/CTV06

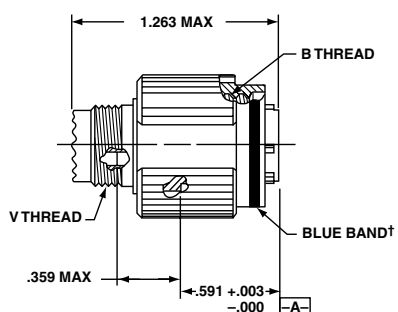
Straight Plug

TV06() - Crimp, Metal
CTV06() - Crimp, Composite

METAL



COMPOSITE



HD38999 High Density Connectors

TV96

Straight Plug with Integral Backshell

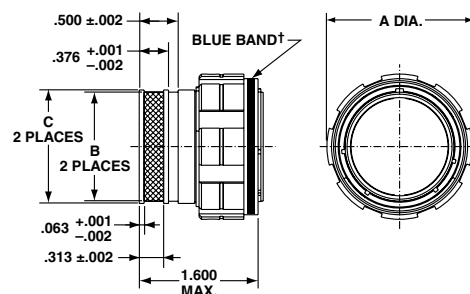
TV96() (TV Type) - Crimp, Metal

This MIL-DTL-38999 Series III style connector features an integral backshell design that eliminates the need for costly backshell accessories. The backshell feature is incorporated into the rear of the connector shell, allowing the user to attach the shield of their cable directly to the connector. This provides superior EMI shielding and ease for overmold applications. The straight plug with integral backshell is available in aluminum shells with OD Cad or Electroless Nickel plating.



See how to build a part number on pages 47

† Blue band indicates rear release contact retention system.



Inches

Shell Size	MS Shell Size Code	A Max.	B +.005 / -.000	C +.003 / -.002
9	A	.859	.416	.472
11	B	.969	.524	.580
13	C	1.141	.652	.708
15	D	1.266	.810	.866
17	E	1.391	.928	.984
19	F	1.500	1.046	1.102
21	G	1.625	1.164	1.220
23	H	1.750	1.282	1.338
25	J	1.875	1.400	1.456

38999

III

HD

Dualok

II

I

SJT

Accessories

Aquacon

Herm/Seal

PCB

HIGH SPEED

Fiber Optics

Contacts Connectors Cables

EMI Filter Transient

26482 Matrix 2

83723 III Matrix | Pyle

26500 Pyle

5015 Crimp Rear Release Matrix

22992 Class I

Back- Shells

Options Others

38999

III
HD
Duallok
II
I
SJT
Accessories
Aquacon
Herm/Seal
PCB

HIGH SPEED

Fiber Optics
Contacts
Connectors
Cables

EMI Filter
Transient

26482
Matrix 2

83723 III
Matrix | Pyle

26500
Pyle

5015
Crimp Rear
Release
Matrix

22992
Class I

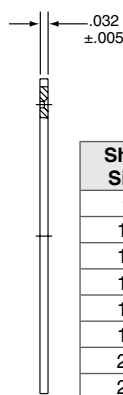
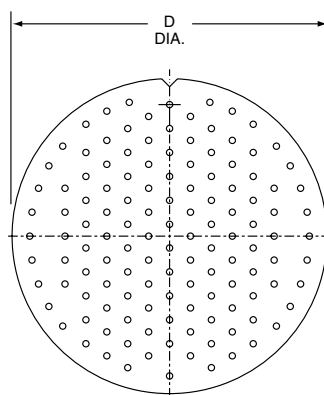
Back-
Shells

Options
Others

New Custom Designed HD38999 Connectors - Provide More Interconnect Solutions:

Alignment Disks

Alignment disks keep contacts aligned for easier insertion into circuit boards. These are typically ordered with the connector - see step 7 of How to Order on page 47.

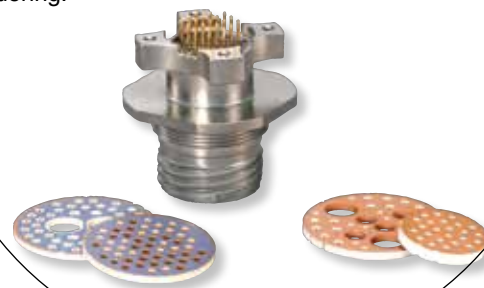


Shell Size	D Dia. ±.010
9	.234
11	.350
13	.500
15	.725
17	.750
19	.850
21	.953
23	1.147
25	1.250

HD38999
High Density

Filtered HD38999 Connectors - for EMI/EMP Protection

High density patterns are available in filter 38999 connectors - consult Amphenol Aerospace for ordering.



HD38999 for Gigabit Ethernet Applications

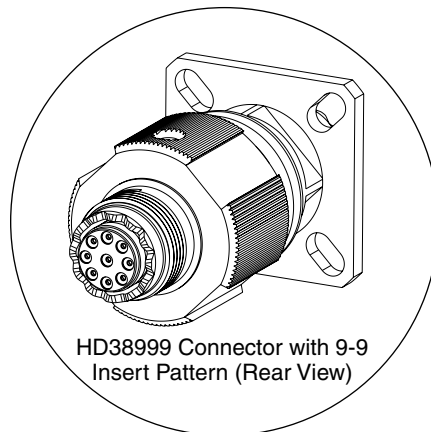
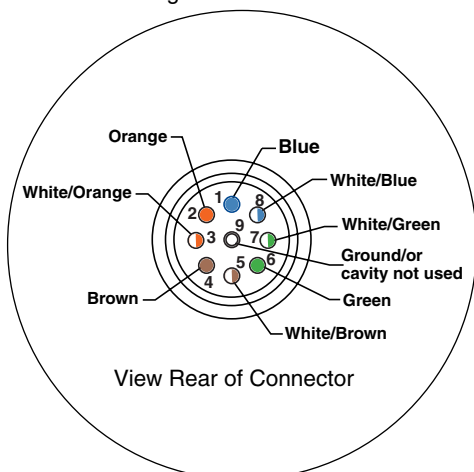
The HD38999 is available for high speed (Gigabit Ethernet) data transmission in the size 9-9 insert pattern.

Data transmission performance of this connector insert:

- 10 Base T, 100 Base TX, and 1000 Base T networks using Cat 5e per TIA/EIA568B and Class D per ISO/IEC 11801.

(Test report available - consult Amphenol Aerospace for more information)

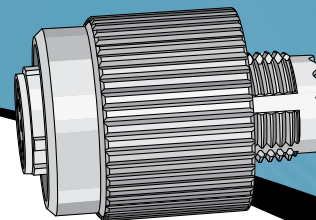
Signal-Ground Pin Configuration Wiring Recommendations



HD38999 Connector with 9-9 Insert Pattern (Rear View)

Amphenol

Dualok Revolution



- ✓ **Severe Environments:**
 - *Shock and vibration*
- ✓ **Rock Solid Coupling:**
 - *Ensures metal-to-metal bottoming*
- ✓ **Light Weight:**
 - *Hybrid composite/metal design*
- ✓ **D38999 Compatible:**
 - *Mates with standard D38999 receptacles*
 - *Standard D38999 insert arrangements*

TABLE OF CONTENTS

Dualok

- Weight Chart56
- How to Order 57-59
- Straight Plug60
- Box Mounting Receptacle TVP02/CTVP02.60

Amphenol
Aerospace

38999

The Dualok represents the latest in high performance connector designs from Amphenol. Featuring a newly developed locking mechanism, the Dualok plug ensures rock-solid coupling and metal-to-metal bottoming in the most severe vibration environments.

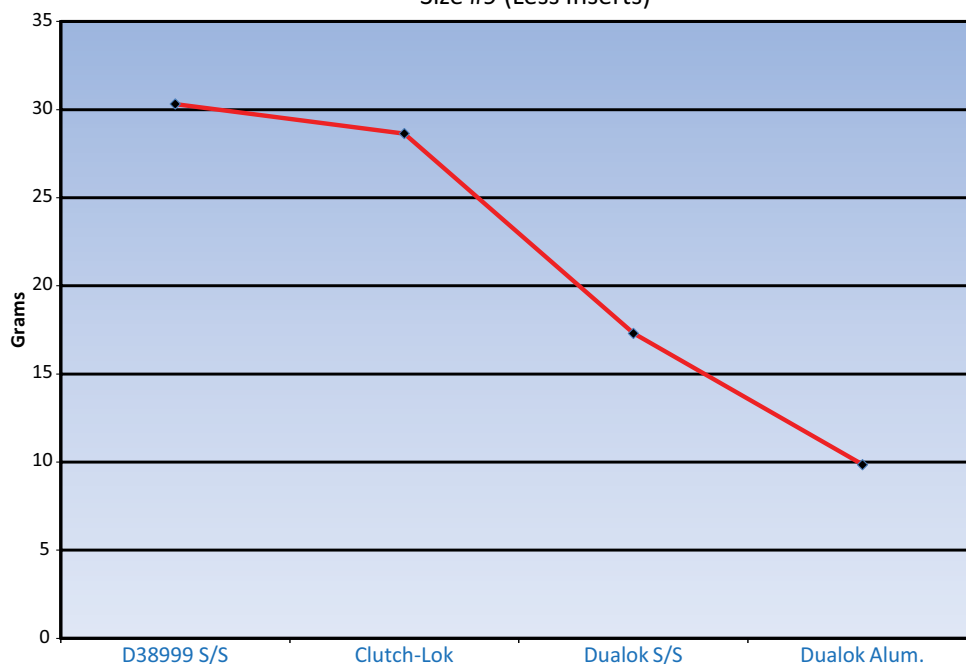
Dualok features and benefits include:

- Mates with standard D38999 receptacles and utilizes standard D38999 inserts.
- Designed to withstand and stay mated under vibration levels that exceed MIL-DTL-38999 levels
- Dualok stainless steel provides a weight savings of up to 42% compared to standard D38999 stainless steel designs
- Brand new size 7 plugs and receptacles
- Stainless steel, aluminum, composite, or aluminum bronze materials of construction
- Dualok aluminum provides ~ 10% weight reduction over D38999 Aluminum
- Available in sizes 7 – 25
- Offering of new 7-2, 7-3 & 7-4 insert patterns
- Coupling mechanism that does not “settle” under vibration levels exceeding MIL-DTL-38999
- Metal-to-metal bottoming for maximum EMI shielding under extreme vibration



 **New/Featured**

Weight Comparison
Size #9 (Less Inserts)



Patent Pending

Easy Steps to build a part number... *Dualok*

1. Commercial	2. Shell Style	3. Service Class	4. Shell Size- Insert Arrangement	5. Contact Type	6. Alternate Keying Position	7. Special Variations
TVS	56	RF	9-35	P	B	(XXX)

Step 1. Select a Connector Type

What Shell Material & Temperature rating do you need?

Aluminum 175°C	
TV	Tri-Start 175°C
TVP	Panel mounted receptacle 175°C

Aluminum, Aluminum Bronze & Steel 200°C	
TVS	200°C rated
TVPS	Panel mounted, 200°C rated receptacle

Composite 175°C	
CTV	Composite 175°C
CTVP	Panel mounted composite receptacle 175°C

Composite 200°C	
CTVS	200°C rated, composite
CTVPS	Composite Panel mounted, 200° rated receptacle

Step 2. Select a Shell Style

COMMERCIAL				Designates
TVP, TVPS, CTVP, CTVPS	TV, CTV	TVS	CTVS	
00				Wall Mount Receptacle
02				Box Mount Receptacle*
	01	01	01	Line Receptacle*
	07	07	07	Jam Nut Receptacle*
		I		Solder Mount Receptacle Hermetic*
		HI		Weld Mounted Receptacle, (Hermetic) Only*
	56	56	56	Straight plug with Dualok

*Currently available in sizes 9-25

Wall Mount Receptacle (00)



Line Receptacle (01)



Box Mount Receptacle (02)



Straight Plug (56)



Jam Nut Receptacle (07)



Deep Reach Receptacle Consult Amphenol Aerospace



Solder Mount Hermetic Receptacle (I)



38999

III
HD
Dualok
I
SJT
Accessories
Aquacon
Herm/Seal
PCB

HIGH SPEED
Fiber Optics
Contacts Connectors Cables

EMI Filter Transient

26482 Matrix 2
83723 III Matrix Pyle

26500 Pyle

5015 Crimp Rear Release Matrix

22992 Class L

Back-Shells

Options Others

Patent Pending

38999

Step 3. Select a Service Class

1.	2.	3.	4.	5.	6.	7.
Connector Type	Shell Style	Service Class	Shell Size-Insert Arr.	Contact Type	Alternate Position	Special Variations
		RX				

TV	TVP	CTV	CTVP	CTVS, CTVPS	TVS	TVPS	Finish	Description
					RB	RB	Aluminum Bronze	TBD Corrosion resistant aluminum bronze for marine & other high corrosion applications, 200°C.
							Anodic Coating	■ Non-conductive, anodic coated aluminum, 500 hour salt spray, 200°C.
RX	RX				RX	RX		TBD Consult Amphenol Aerospace for details, options and availability of non-cadmium or ROHS Compliant Finishes.
				RF-Composite	RF-Metal	RF-Metal	Electroless Nickel	■ Electroless nickel plated aluminum (composite) optimum EMI shielding effectiveness -65dB @ 10GHz specification min., 48 hour salt spray, 200°C (Composite-2000 hours dynamic salt spray).
				RGF-Composite	RGF-Metal	RGF-Metal	Electroless Nickel	■ Electroless nickel plated ground plane aluminum (composite), 200°C
							Electroless Nickel	■ Space grade, electroless nickel, 48 hour salt spray, 200°C
RGW-Metal	RGW-Metal	RGW-Composite	RGW-Composite				Olive Drab Cadmium	Olive drab cadmium plated ground plane aluminum (composite), 175°C
					RK**	RK**	Passivated Stainless Steel	■ Corrosion resistant stainless steel, firewall capability, plus 500 hour salt spray resistance, EMI -45 dB @ 10 GHz specification min., 200°C
					RKN	RKN	Passivated Stainless Steel	■ Corrosion resistant stainless steel, non-firewall capability, plus 500 hour salt spray resistance, EMI -45 dB @ 10 GHz specification min., 200°C
					RL	RL	Stainless Steel w/ Nickel Plate	■ Corrosion resistant steel, electro deposited nickel, 500 hour salt spray, 200°C, non firewall, EMI shielding -65dB @ 10GHz specification min.
RW-Metal	RW-Metal	RW-Composite	RW-Composite				Olive Drab Cadmium	Corrosion resistant olive drab cadmium plate aluminum (composite), 500 hour salt spray, EMI Shielding -50 dB @ 10 GHz specification min., 175°C (Composite - 2000 hours dynamic salt spray).
					Y	Y	Stainless Steel	■ Hermetic seal, passivated stainless steel, 200°C
					RS*	RS*	Stainless Steel w/ Nickel Plate	■ (Non-hermetic connectors), Nickel plated, corrosion resistant steel, firewall capability, 500 hour salt spray, 200°, EMI shielding -65dB @ 10GHz specification min.
					YN	YN	Stainless Steel w/ Nickel Plate	■ (Hermetic connectors), Nickel plated corrosion resistant steel, 200°C
DT	DT						Durmalon plated	■ Nickel-PTFE alternative to Cadmium. Corrosion resistant, 500 hour salt spray, EMI -50dB at 10GHz specification min., 175°C
DZ	DZ						Zinc-Nickel Plated	TBD Zinc-Nickel Alternative to Cadmium, corrosion resistant, 500 hour salt spray, Conductive, -65°C to +175°C, EMI Shielding -50 dB @ 10 GHz specification min.

* Consult Amphenol Aerospace for availability. **Consult Amphenol Aerospace for availability of Class RK. Coaxial arrangements are not available in Class RK.

Step 4. Select a Shell Size & Insert Arrangement see pg. 6-9

Double Start Threads		Triple Start Threads										Mil Shell Size
		A	B	C	D	E	F	G	H	J		
7	7H	9	11	13	15	17	19	21	23	25		Amphenol Shell size

1.	2.	3.	4.	5.	6.	7.
Connector Type	Shell Style	Service Class	Shell Size-Insert Arr.	Contact Type	Alternate Position	Special Variations
			23-2			

Shell Size & Insert Arrangement are on pages 6-9. First number represents Shell Size, second number is the Insert Arrangement.

* Size 7 and 7H are Double Start Threads only

High Vibration Dualok, 38999 Series III Type

How to Order (Commercial)

Step 5. Select a Contact Type

	Designates
P	Pin Contacts
S	Socket Contacts
H	1500 Cycle Pin Contacts
J	1500 Cycle Socket Contacts
A	Same as "P" except supplied less pin Contacts
B	Same as "S" except supplied less socket contacts (A & B designate nonstandard contact applications)
X	Eyelet contacts, hermetics only

Step 6. Select an Alternate Keying Position

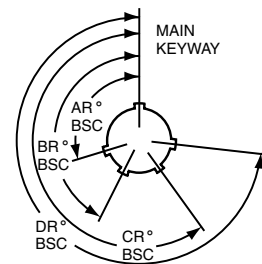
Key/Keyway Position

Shell Size	Key & Keyway Arrangement Identification Letter	AR° or AP° BSC	BR° or BP° BSC	CR° or CP° BSC	DR° or DP° BSC
7, 7H	N* A B C D E	120 132 80 140 155 131	240 248 230 275 234 197	NA	NA
9	N* A B C D E	105 102 80 35 64 91	140 132 118 140 155 131	215 248 230 205 234 197	265 320 312 275 304 240
11, 13, and 15	N* A B C D E	95 113 90 53 119 51	141 156 145 156 146 141	208 182 195 220 176 184	236 292 252 255 298 242
17 and 19	N* A B C D E	80 135 49 66 62 79	142 170 169 140 145 153	196 200 200 200 180 197	293 310 244 257 280 272
21, 23, and 25	N* A B C D E	80 135 49 66 62 79	142 170 169 140 145 153	196 200 200 200 180 197	293 310 244 257 280 272

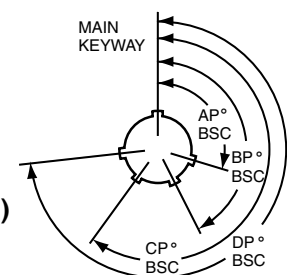
* An "N" designation is used on D38999 military part number but not on the commercial versions

1.	2.	3.	4.	5.	6.	7.
Connector Type	Shell Style	Service Class	Shell Size-Insert Arrg.	Contact Type	Alternate Position	Special Variations
				P	B	

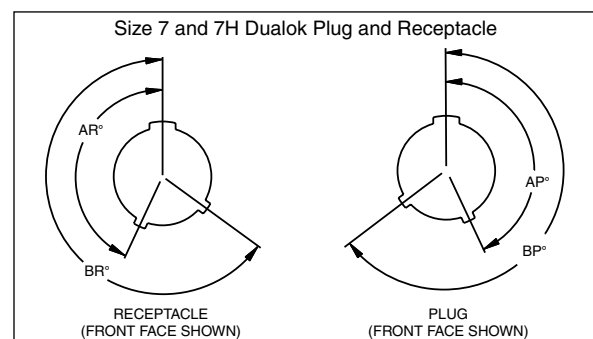
A plug with a given rotation letter will mate with a receptacle with the same rotation letter. The angles for a given connector are the same whether it contains pins or sockets. Master key stays fixed, minor keys rotate. Inserts are not rotated in conjunction with the master key/keyway.



RECEPTACLE (front face shown)



PLUG (front face shown)



Step 7. Special Variations

Consult Amphenol Aerospace for variations.

Patent Pending

1.	2.	3.	4.	5.	6.	7.
Connector Type	Shell Style	Service Class	Shell Size-Insert Arrg.	Contact Type	Alternate Position	Special Variations
						(xxx)

38999

III

HD

Dualok

II

I

SJT

Accessories

Aquacon

Herm/Seal

PCB

HIGH SPEED

Fiber Optics

Contacts
Connectors
Cables

EMI Filter
Transient

26482
Matrix 2

83723 III
Matrix | Pyle

26500
Pyle

5015
Crimp Rear Release Matrix

22992
Class I

Back-Shell

Options
Others

38999

III
HD
Dualok
II
I
SJT
Accessories
Aquacon
Herm/Seal
PCB

HIGH
SPEED

Fiber
Optics
Contacts
Connectors
Cables

EMI Filter
Transient

26482
Matrix 2

83723 III
Matrix | Pyle

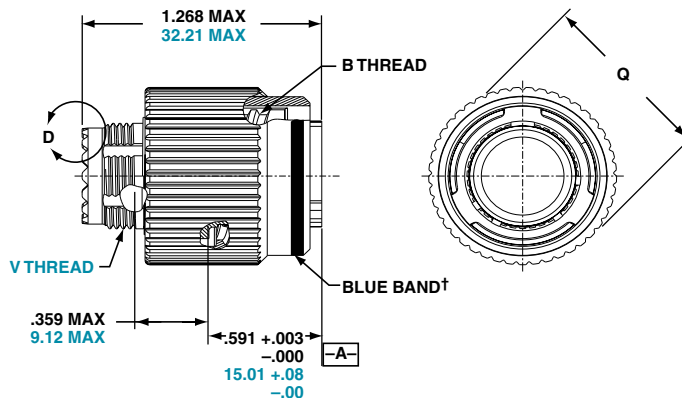
26500
Pyle

5015
Crimp Rear
Release
Matrix

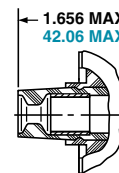
22992
Class L

Back-
Shells

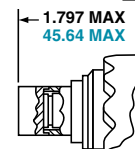
Options
Others



VIEW D
FOR SIZE 8 COAXIAL ONLY,
RELATIVE TO -A-



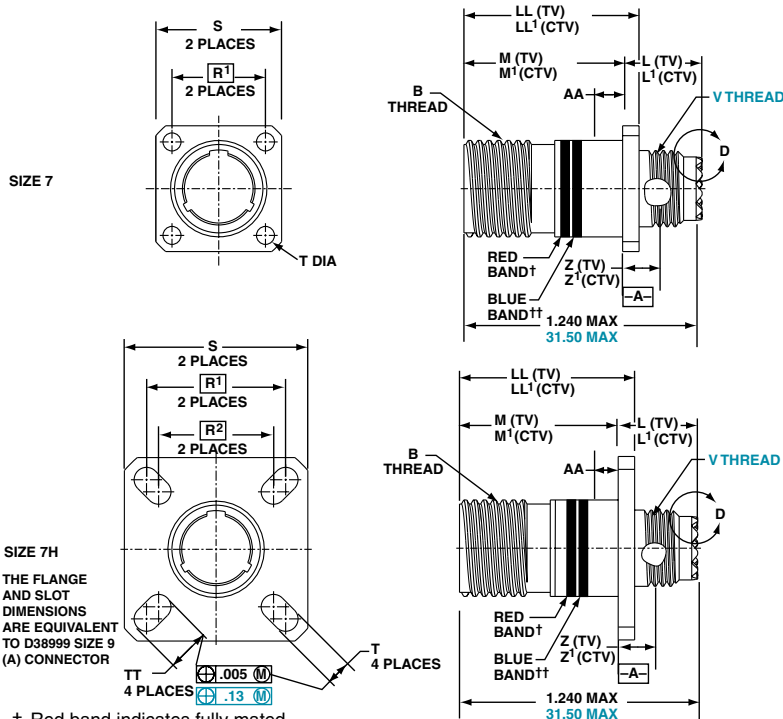
VIEW D
FOR SIZE 8 TWINAX ONLY,
RELATIVE TO -A-



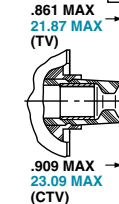
Shell Size	B Thread 0.0714P-.1428L-DS-2B (Plated)	Q Dia. Max.	Q Dia. Max. Metric	V Thread Metric
7	.5000	.745	18.9	M10X-3g6g
	B Thread 0.1-0.3L-TS-2B (Plated)			
9	.6250	.863	21.8	M12X1-6g
11	.7500	.989	25.0	M15X-16g
13	.8750	1.159	29.4	M18X1-6g
15	1.0000	1.275	32.5	M22X1-6g
17	1.1875	1.405	35.7	M25X1-6g
19	1.2500	1.515	38.5	M28X1-6g
21	1.3750	1.645	41.7	M31X1-6g
23	1.5000	1.675	44.9	M34X1-6g
25	1.6250	1.885	48.0	M37X1-6g

All dimensions for reference only

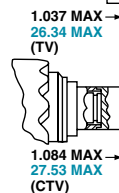
□ Designates true position dimensioning



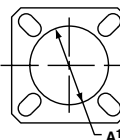
VIEW D
FOR SIZE 8 COAXIAL ONLY,
RELATIVE TO -A-



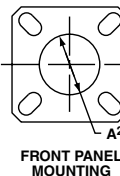
VIEW D
FOR SIZE 8 TWINAX ONLY,
RELATIVE TO -A-



PANEL HOLE DIMENSIONS



BACK PANEL MOUNTING



Patent
Pending

Consult Amphenol Aerospace for availability of 7 & 7H composite receptacles.

Shell Size	B Thread .0714P-.1428L-DS-2A (Plated)	L Max. (TV)	L' Max. (CTV)	M +.000 / -.005 (TV)	M' +.000 / -.005 (CTV)	R1	R2	S Max.	T	Z Max. (TV)	Z' Max. (CTV)	A1 Back Panel Mount	A2 Front Panel Mount	AA Max. Panel Thickness	LL +.006 / -.000 (TV)	LL' ±.005 (CTV)	TT ±.008	V Thread Metric
7	.5000	.469	.514	.820	.779	.483	NA	.660	.093 ±.005	.153	.198	.525	.432	.234	.905	.908	N/A	M10X-3g6g
7H	.5000	.469	.514	.820	.779	.812	.594	.948	.129 ±.008	.153	.198	.525	.432	.234	.905	.908	.216	M10X-3g6g

MIL-DTL-38999, Series II JT

MIL-DTL-38999, Series I LJT



**MIL-DTL-38999
Series I LJT**

Components

Shell components are impact extruded or machined bar stock aluminum. Standard plating on shell components is cadmium over nickel. Many finishes are optional (see "Specifications" page 19). Hermetic seal receptacles are available in carbon steel or stainless steel shells. Dependable 5 key/keyway polarization with bayonet lock coupling is incorporated to aid and assure positive mating.

Insert material is a rigid dielectric with excellent electrical characteristics, providing durable protection for molded-in solder type contacts. Contrasting letter or number designations are used on insert faces.

A fluorinated silicone interfacial seal wafer is featured on the mating face of "crimp type pin" inserts. This assures complete electrical isolation of pins when connector halves are mated. In addition, a main joint gasket is installed in the receptacle for moisture sealing between connector halves. Both features are also available for hermetic receptacles.

Contacts

Maximum design flexibility is built into the JT/LJT Series, with a minimum of 2 to a maximum of 128 circuits per connector in a wide variety of contact arrangements. Contacts are available in sizes 8, 10, 12, 16, 20, 22, 22D and 22M with standard 50 micro inch minimum gold plating (100 micro inches optional). All socket contacts are probe proof. Crimp type rear removable contacts are featured in JT-R and LJT-R connectors. Solder termination contacts are also available, as well as PCB, wire wrap, thermocouple, fiber optic, coaxial, triaxial and twinax contact options.

Optional Features

High temperature capability of 392°F is available only in JTS or LJTS crimp type connectors. High temperature versions feature gold plated contacts, high temperature shell plating, stainless steel coupling nut spring, and epoxy inserts/fluorinated silicone grommet combination. Standard temperature capability for both solder and crimp is 302°F.

The JTN or LJTN type connectors are available for N₂O₄ resistance provided they are mated, and un-grommated rear faces are suitably protected.

For complete listing and definition of connector types, shell styles and service classes, see How to Order, pages 62 & 63. For information on Fail-Safe Lanyard Release style plugs, see pages 94-96.

Where proof of high reliability and lot control is required, MS approved equivalents to most proprietary JT and LJT connectors are available.

* MIL-DTL-38999 Series I supersedes MIL-C-38999 Series I.
MIL-DTL-38999 Series II supersedes MIL-C-38999 Series II.

Features & Benefits

Amphenol® LJT and JT Series subminiature cylindrical connectors are qualified to MIL-DTL-38999*, Series I and II respectively. These connectors were developed to meet the needs of the aerospace industry, and provided the impetus for development of the MIL-C-38999 specifications, which has been superseded by MIL-DTL-38999. Meeting or exceeding MIL-DTL-38999 requirements, Amphenol® JT/LJT connectors feature:

- **Lightweight, Space Saving Design**
- **Contact Protection** - 100% scoop-proof LJT design prevents bent pins and short circuits during mating
- **Quick Positive Coupling** - 3 point bayonet lock system
- **Mismating Eliminated** - with 5 key/keyway design
- **Error Proof Alternate Positioning** - insured by different key/keyway locations
- **EMI Shielding** - grounding fingers standard in LJT Series; optional in JT Series
- **Nine Shell Sizes and a Variety of Shell Styles**
- **Contact Options** - size 8, 10, 12, 16, 20, 22M and 22D Crimp, Solder, PCB, Wire wrap, Coax, Twinax, Triax, Thermocouple, Fiber Optic and Filter
- **Fixed Solder Contacts** - Amphenol MIL-DTL-38999 Series I LJT and II JT, are available in solder versions as both Commercial and Military qualified to MIL-DTL-27599
- **Hermetic** - air leakage limited to 1 X 10⁻⁷ cm³ per second optional
- **"Breakaway" Lanyard Release Style** - available in LJT plugs. Provides quick disconnect of the connector plug and receptacle with axial pull on the lanyard. See pages 94-96.
- **Inventory Support Commonality** - uses standard MIL-DTL-38999 contacts, insert arrangements and application tools.
- **RoHS Compliant Product Available** - Consult Amphenol Aerospace Operations.



**MIL-DTL-38999
Series II JT**

38999

III
HD
Dualok
II
I
SJT
Accessories
Aquacon
Herm/Seal
PCB

HIGH SPEED
Fiber Optics
Contacts
Connectors
Cables

EMI Filter
Transient

26482
Matrix 2

83723 III
Matrix I Pyle

26500
Pyle

5015
Crimp Rear Release
Matrix

22992
Class I

Back-
Shells

Options
Others

Easy Steps to build a commercial part number... Series I and II

1.		2.		3.		4.		5.		6.		7.		
Connector Series I		Type II	Shell Style		Service Class		Shell Size-Insert Arrangement		Contact Type		Alternate Position		Strain Relief/Finish Variation Suffix	
LJT		JT	00		RT		9-35		P		B		SR	(014)

Step 1. Select a Connector Type

1.	2.	3.	4.	5.	6.	7.
Connector Type	Shell Style	Service Class	Shell Size-Insert Arrg.	Contact Type	Alternate Position	Special Variations
JT						
Series I	Series II	Designates				
	JT	Standard Junior Tri-Lock				
LJT		Long Junior Tri-Lock				
LJTS	JTS	High temperature connector				
LJTN	JTN	Chemical and fuel resistant				
	JTL	Miniature mounting dimensions				
	JTLN	Miniature mounting dimensions—Chemical resistant				
	JTLS	Miniature mounting dimensions— High temperature				
LJTPQ	JTPQ	Back panel mounted wall mounting receptacle				
LJTP	JTP	Back panel mounted box mounting receptacle				
LJTPN	JTPN	Back panel mounted—Chemical resistant				
LJTPS	JTPS	Back panel mounted—High temperature				
	JTG	Plug with grounding fingers*				
	JTNG	Plug with grounding fingers* —Chemical resistant				

*Grounding fingers standard on all LJT plugs

Step 2. Select a Shell Style

1.	2.	3.	4.	5.	6.	7.
Connector Type	Shell Style	Service Class	Shell Size-Insert Arrg.	Contact Type	Alternate Position	Special Variations
	00					
JT JTS JTN LJT LJTS LJTN	JTL JTLN JTLS	JTPQ JTP JTPN JTPS LJTPQ LJTP LJTPN LJTPS	JTG JTNG	Designates		
00		00		Wall mount receptacle (Hermetic option)		
01				Line mount receptacle (Non-hermetic)		
02		02		Box mount receptacle (Hermetic Option except for LJTN)		
06			06	Straight plug (Non-hermetic)		
07	07			Jam nut receptacle (Hermetic Option)		
08			08	90 degree plug (Non-hermetic)		
I				Solder mount receptacle (hermetic)		

Series I LJT

Series II JT



Wall Mounting Receptacle



Wall Mounting Receptacle



Line Receptacle



Box Mounting Receptacle



Jam Nut Receptacle



Straight Plug



Straight Plug



Jam Nut Receptacle



Solder Mounting Receptacle



90° Plug



Lanyard Release Plug
(See pages 94-96 for ordering)



Solder Mounting Receptacle

How to Order (Commercial)

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Matrix 2

83723 III
Matrix Pyle

26500
Pyle

5015
Crimp Rear Release Matrix

22992
Class I

Back-Shells

Options Others

Step 3. Select a Service Class

1.	2.	3.	4.	5.	6.	7.
Connector Type	Shell Style	Service Class	Shell Size-Insert Arrg.	Contact Type	Alternate Position	Special Variations
		RX				

JT	JTS	JTN	JTG JTNG	LJTS	LJT	Solder Contacts/Connectors
P		P			P	Potting applications: These connectors are supplied with a potting boot. All shells are designed with integral features to retain potting boots.
A		A	A			General Applications (JT only molded in solder type contacts)
A (SR)						Threaded rear design with strain relief†
C					C	Pressurized applications
C (SR)						Threaded rear design with strain relief.†
H	H				H	Hermetic applications- Fused compression glass sealed inserts. Leakage rate less than .01 micron cu. ft./hr. (1 x 10 ⁻⁷ cc/sec.) at 15 psi differential.
Y	Y			Y	Y	Same as "H" with interfacial seal.
T					T	MIL-DTL-27599 applications-general duty, pressurized (receptacle only) (LJT only molded in solder type contacts)

JT JTN JTG JTNG JTPQ LJT JTPQ LJTPQ	JTS	JTLS	JTL JTLN LJTP	LJTS	JTPS LJTPS	Crimp Contacts/Connectors
RP	RP	RP	RP			Potting crimp applications. Supplied with spacer grommet and potting boot.††
RE	RE	RE	RE	RE	RE	Environmental crimp applications. Supplied with a grommet and compression nut.† Can be supplied with strain relief integral with compression nut "RE(SR)".
RT	RT		RT	RT	RT	Environmental applications. Supplied without rear accessories. Design provides serrations on rear threads of shells.

† Not applicable to box mounting style or LJT Series I.

†† Not applicable to box mounting style.

Step 4. Select a Shell Size & Insert Arrangement see page 6-9

First number represents Shell Size,
second number is the Insert Arrangement.

1.	2.	3.	4.	5.	6.	7.
Connector Type	Shell Style	Service Class	Shell Size-Insert Arrg.	Contact Type	Alternate Position	Special Variations
			22-2			

Step 5. Select a Contact Type

1.	2.	3.	4.	5.	6.	7.
Connector Type	Shell Style	Service Class	Shell Size-Insert Arrg.	Contact Type	Alternate Position	Special Variations
				P		

	Designates
P	Pin Contacts
S	Socket Contacts

How to Order (Commercial)

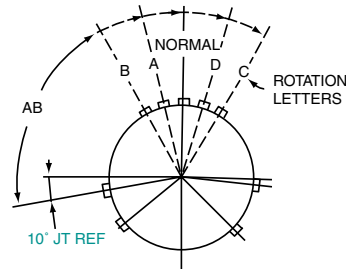
38999

1. 2. 3. 4. 5. 6. 7.

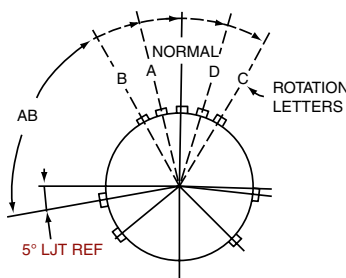
Connector Type	Shell Style	Service Class	Shell Size-Insert Arrg.	Contact Type	Alternate Position	Special Variations
					A	

Step 6. Select an Alternate Keying Position

"A" designates Alternate keying connector assembly. Other basic alternate keys are "B", "C" and "D". No letter required for normal rotation (no rotation) position.



RELATIVE POSSIBLE POSITION OF ROTATED MASTER KEYWAY (front face of receptacle shown)



RELATIVE POSSIBLE POSITION OF ROTATED MASTER KEYWAY (front face of receptacle shown)

A plug with a given rotation letter will mate with a receptacle with the same rotation letter. The AB angle for a given connector is the same whether it contains pins or sockets. Only the master key/keyway rotates in the shell, and the minor keys are fixed.

AB angles shown are viewed from the front face of the connector, a receptacle is shown below. The angles for the plug are exactly the same except the direction of rotation is opposite of that shown for the receptacle.

The "N" designation is not referenced in part number, it is omitted.

JT Key/Keyway Rotation

AB ANGLE OF ROTATION (Degrees)					
Shell Size	Normal	A	B	C	D
8	100°	82°	-	-	118°
10	100°	86°	72°	128°	114°
12	100°	80°	68°	132°	120°
14	100°	79°	66°	134°	121°
16	100°	82°	70°	130°	118°
18	100°	82°	70°	130°	118°
20	100°	82°	70°	130°	118°
22	100°	85°	74°	126°	115°
24	100°	85°	74°	126°	115°

LJT Key/Keyway Rotation

AB ANGLE OF ROTATION (Degrees)					
Shell Size	Normal	A	B	C	D
9	95°	77°	-	-	113°
11	95°	81°	67°	123°	109°
13	95°	75°	63°	127°	115°
15	95°	74°	61°	129°	116°
17	95°	77°	65°	125°	113°
19	95°	77°	65°	125°	113°
21	95°	77°	65°	125°	113°
23	95°	80°	69°	121°	110°
25	95°	80°	69°	121°	110°

1. 2. 3. 4. 5. 6. 7.

Connector Type	Shell Style	Service Class	Shell Size-Insert Arrg.	Contact Type	Alternate Position	Special Variations
						()

Step 7. Select a Strain Relief Option or Finish Variation Suffix

Strain Relief Options: "SR" designates a strain relief clamp. Strain reliefs are available only on Service Class "A", "C" and "RE" (see step 3. Service Class)

Finish Variation Suffix: See finish variations available in table to your right.

Finish	Military Finish Data	Finish Suffix	Finish Plus "SR" Suffix
Cadmium plated nickel base 175°C	A		(SR)
Olive drab cadmium plate nickel base 175°C	B	(014)	(386)
Electroless nickel 200°C	F	(023)	(424)
Electroless nickel, space compatible 200°C		(453)	(467)
Anodic coating (Alumilite) 200°C	C	(005)	(300)
Chromate treated (Iridite 14-2) 125°C		(011)	(344)
Passivated steel 200°C	E	-	-
Nickel-PTFE 175°C		(038)	

How to Order (Military)

Easy Steps to build a Military part number... Series I and II

Military

1.	2.	3.	4.	5.	6.	7.
MS Number	Service Class	Shell Size	Finish	Insert Arrangement	Contact Style (P or S)	Alternate Keying Position
MS27473	E	14	A	18	P	A

Step 1. Choose your Military Connector Type

1.	2.	3.	4.	5.	6.	7.
MS Number	Service Class	Shell Size	Finish	Insert Arrangement	Contact Style (P or S)	Alternate Position
MS27473						

Series II JT		Series I LJT	
MIL-DTL-38999		MIL-DTL-38999	
MS27472	Crimp Wall Mount Receptacle	MS27466	Crimp Wall Mount Receptacle
MS27497	Crimp Wall Mount Receptacle (Back Panel Mounting)	MS27656	Crimp Wall Mount Receptacle (Back Panel Mounting)
MS27499	Crimp Box Mounting Receptacle	MS27496	Crimp Box Mounting Receptacle
MS27513	Crimp Box Mounting Receptacle with grommet	MS27505	Crimp Box Mounting Receptacle (Back Panel Mounting)
MS27508	Crimp Box Mounting Receptacle (Back Panel Mounting)	MS27467	Crimp Straight Plug
MS27473	Crimp Straight Plug	MS27468	Crimp Jam Nut Receptacle
MS27484	Crimp Straight Plug with Grounding Fingers	MS27469	Hermetic Wall Mounting Receptacle
MS27474	Crimp Jam Nut Receptacle	MS27470	Hermetic Jam Nut Receptacle
MS27500	Crimp 90° plug	MS27471	Hermetic Solder Mounting Receptacle
MS27475	Hermetic Wall Mounting Receptacle	MIL-DTL-27599	
MS27476	Hermetic Box Mounting Receptacle	MS20026	Solder Wall Mounting Receptacle
MS27477	Hermetic Jam Nut Receptacle	MS20027	Solder Line Receptacle
MS27478	Hermetic Solder Mounting Receptacle	MS20028	Solder Straight Plug
MIL-DTL-27599		MS20029	Solder Jam Nut Receptacle
MS27334	Solder Wall Mount Receptacle		
MS27335	Solder Box Mounting Receptacle		
MS27336	Solder Straight Plug		
MS27337	Solder Jam Mounting Receptacle		

Step 2. Select a Military Service Class

1.	2.	3.	4.	5.	6.	7.
MS Number	Service Class	Shell Size	Finish	Insert Arrangement	Contact Style (P or S)	Alternate Position
	E					

Military	Service Class
E	Environmental crimp applications. Supplied with a grommet and compression nut.† Can be supplied with strain relief integral with compression nut "RE(SR)". (JT Series only). Box Mount versions using spacer grommets are not environmental.
P	Potting crimp applications. Supplied with spacer grommet and potting boot.††
T	Environmental applications. Supplied without rear accessories. Design provides serrations on rear threads of shells. (Not applicable to solder type or hermetics)
Y	Hermetically interfacial seal

† Not applicable to box mounting style or LJT Series I.

†† Not applicable to box mounting style.

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Connectors
Cables

EMI Filter
Transient

26482
Matrix 2

83723 III
Matrix | Pyle

26500
Pyle

5015
Crimp Rear
Release
Matrix

22992
Class I

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Others

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Aquacon

Herm/Seal

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Fiber Optics

Contacts Connectors Cables

EMI Filter Transient

26482 Matrix 2

83723 III Matrix | Pyle

26500 Pyle

5015 Cimp Rear Release Matrix

22992 Class I

Back-Shells

Options Others

Step 3 & 5. Select a Shell Size and Insert Arrangement from Pages 6-9

1.	2.	3.	4.	5.	6.	7.
MS Number	Service Class	Shell Size	4. Finish	Insert Arrangement	Contact Style (P or S)	Alternate Position
		14		18		

Shell Size & Insert Arrangement are on pages 6-9. First number represents Shell Size, second number is the Insert Arrangement. Place Shell Size in box 3 and Insert Arrangement in box 5.

Step 4. Select a Military Finish

1.	2.	3.	4.	5.	6.	7.
MS Number	Service Class	Shell Size	Finish	Insert Arrangement	Contact Style (P or S)	Alternate Position
			A			

Finish	Military Finish Data	Finish Suffix	Finish Plus "SR" Suffix
Cadmium plated nickel base 175°C	A		(SR)
Olive drab cadmium plate nickel base 175°C	B	(014)	(386)
Electroless nickel 200°C	F	(023)	(424)
Electroless nickel, space compatible 200°C		(453)	(467)
Anodic coating (Alumilite) 200°C	C	(005)	(300)
Chromate treated (Iridite 14-2) 125°C		(011)	(344)
Passivated steel 200°C	E	-	-
Nickel-PTFE 175°C		(038)	

Step 6. Select a Military Contact Type

	Designates
P	Pin Contacts
S	Socket Contacts

1.	2.	3.	4.	5.	6.	7.
MS Number	Service Class	Shell Size	Finish	Insert Arrangement	Contact Style (P or S)	Alternate Position
					P	

Step 7. Select an Alternate Keying Position
See page 64 for information, No letter required for normal position

1.	2.	3.	4.	5.	6.	7.
MS Number	Service Class	Shell Size	Finish	Insert Arrangement	Contact Style (P or S)	Alternate Position
						A

Amphenol MIL-DTL-38999, Series II, JT

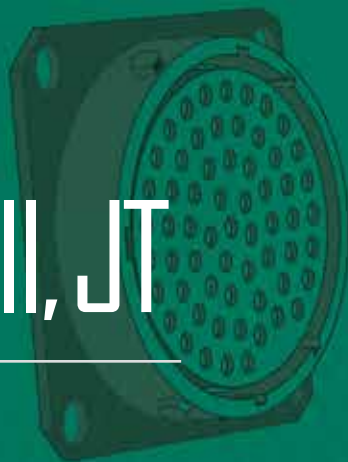


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MIL-DTL-38999 Series II Typical Markets:

- Military & Commercial Aviation
- Military Vehicles
- Missiles & Ordnance
- C4ISR

Amphenol
Aerospace

38999

PART

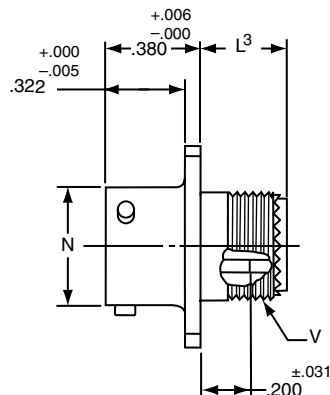
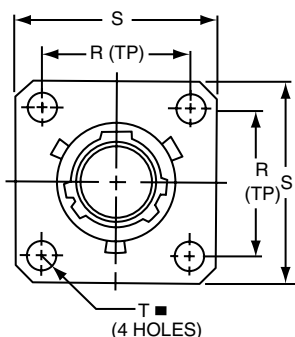
Commercial

Part number reference. To complete, see how to order pages 62-66.

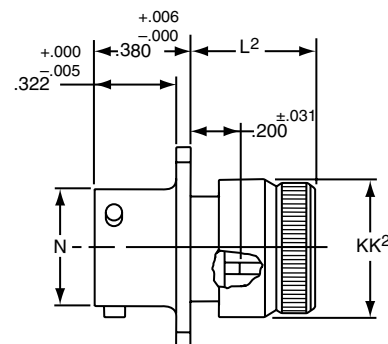
Connector Type	Shell Style	Service Class	Shell Size & Insert Arrg	Contact Type	Alternate Position	Special Variations
JT/JTS/JTN	00	RT	22-2	P	A	(XXX)

Military

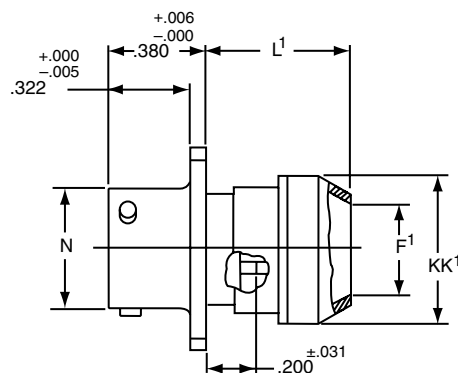
MS Number	Service Class	Shell Size	Finish	Insert Arrg	Contact Style (P or S)	Alternate Position
MS27472	E	14	A	18	P	A
MS27479	E	14	A	18	P	A



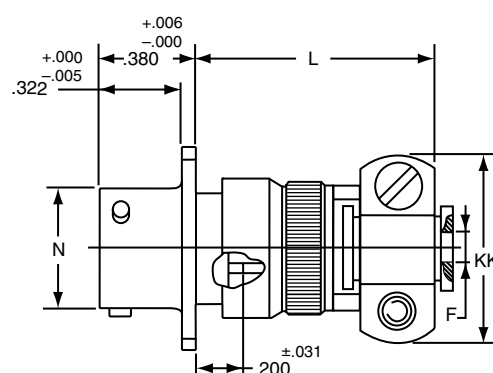
* JT00RT-XX-XXX(MS27472T)
** JTS00RT-XX-XXX(MS27479T)
*** JTN00RT-XX-XXX



* JT00RE-XX-XXX (MS27472E)
** JTS00RE-XX-XXX(MS27479E)
*** JTN00RE-XX-XXX



* JT00RP-XX-XXX(MS27472P)
** JTS00RP-XX-XXX
*** JTN00RP-XX-XXX



* JT00RE-XX-XXX (SR)
** JTS00RE-XX-XXX (SR)
*** JTN00RE-XX-XXX (SR)

⊕ .005 DIA M

* Standard Junior Tri-Lock

** High temperature version

*** Clear iridite finish (gold color), N₂O₄ resistant

Shell Size	F Dia. +.010 - .025	F ¹ Dia. ±.010	L Max.	L ¹ Max.	L ² Max.	L ³ Max.	N +.001 - .005	R (TP)	S ±.016	T ±.005	V Thread UNEF Class 2A (Plated)	KK Max.	KK ¹ Dia. Max.	KK ² Dia. Max.
8	.125	.444	1.094	.609	.547	.500	.473	.594	.812	.120	.4375-28	.812	.625	.578
10	.188	.558	1.094	.609	.547	.500	.590	.719	.938	.120	.5625-24	.875	.750	.703
12	.312	.683	1.094	.609	.547	.500	.750	.812	1.031	.120	.6875-24	1.000	.875	.828
14	.375	.808	1.344	.609	.547	.500	.875	.906	1.125	.120	.8125-20	1.125	1.000	.953
16	.500	.909	1.344	.609	.547	.500	1.000	.969	1.219	.120	.9375-20	1.188	1.125	1.078
18	.625	1.034	1.344	.609	.547	.500	1.125	1.062	1.312	.120	1.0625-18	1.438	1.250	1.203
20	.625	1.159	1.344	.609	.547	.500	1.250	1.156	1.438	.120	1.1875-18	1.438	1.375	1.328
22	.750	1.284	1.469	.609	.547	.500	1.375	1.250	1.562	.120	1.3125-18	1.625	1.500	1.453
24	.800	1.409	1.469	.688	.547	.500	1.500	1.375	1.688	.147	1.4375-18	1.719	1.625	1.578

All dimensions for reference only.

JTPQ00R (MS27497) Series II – Crimp Wall Mounting Receptacle (Back Panel Mounting)

PART

Part number reference. To complete, see how to order pages 62-66.

Connector Type	Shell Style	Service Class	Shell Size & Insert Arrg	Contact Type	Alternate Position	Special Variations
JTPQ/JTPSQ	00	RT	22-2	P	A	(XXX)

Military

MS Number	Service Class	Shell Size	Finish	Insert Arrg	Contact Style (P or S)	Alternate Position
MS27497	E	14	A	18	P	A

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Accessories

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PCB

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EMI Filter
Transient

26482
Matrix 2

83723 III
Matrix | Pyle

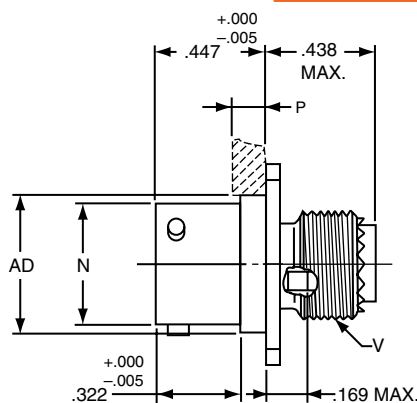
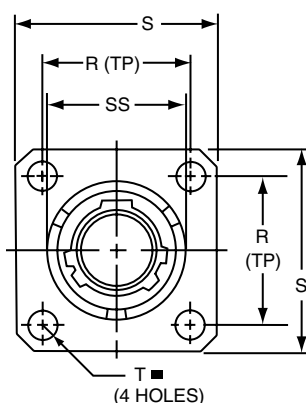
26500
Pyle

5015
Crimp Rear
Release
Matrix

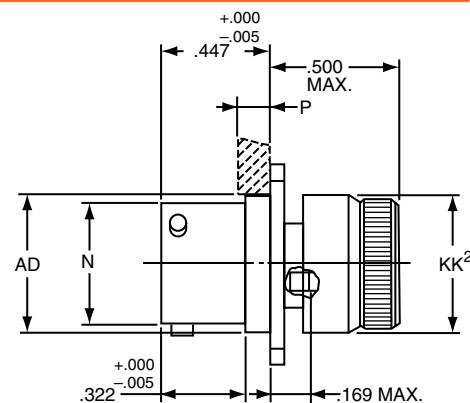
22992
Class I

Back-
Shells

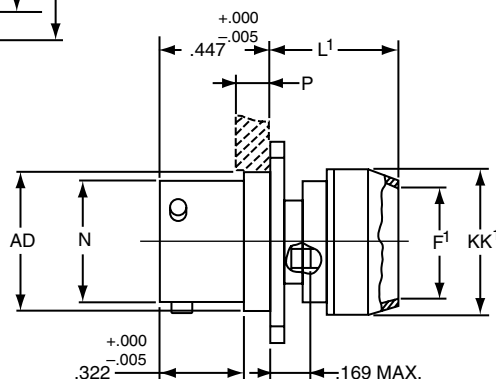
Options
Others



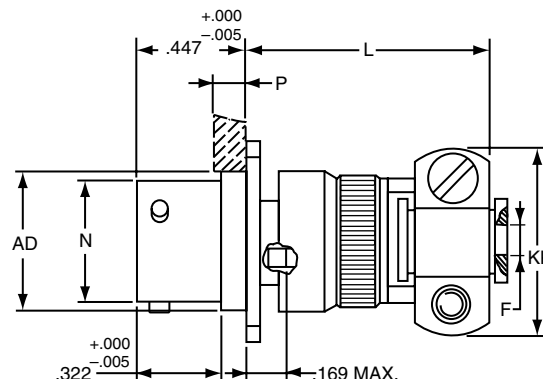
* JTPQ00RT-XX-XXX (MS27497T)
** JTPSQ00RT-XX-XXX



* JTPQ00RE-XX-XXX (MS27497E)



* JTPQ00RP-XX-XXX (MS27497P)



* JTPQ00RE-XX-XXX (SR)

⊕ .005 DIA M

* Standard Junior Tri-Lock

** High temperature version

Shell Size	F Dia. +.010 - .025	F' Dia. ±.010	L Max.	L' Max.	N +.001 - .005	P Max. Panel Thickness	R (TP)	S ±.016	T ±.005	V Thread UNEF Class 2A (Plated)	AD Dia. ±.005	KK Max.	KK' Dia. Max.	KK² Dia. Max.	SS Dia. +.000 - .016
8	.125	.444	1.140	.468	.473	.142	.594	.812	.120	.4375-28	.516	.781	.625	.578	.563
10	.188	.558	1.140	.468	.590	.142	.719	.938	.120	.5625-24	.633	.844	.750	.703	.680
12	.312	.683	1.140	.468	.750	.142	.812	1.031	.120	.6875-24	.802	.969	.875	.828	.859
14	.375	.808	1.375	.468	.875	.142	.906	1.125	.120	.8125-20	.927	1.094	1.000	.953	.984
16	.500	.909	1.375	.468	1.000	.142	.969	1.219	.120	.9375-20	1.052	1.154	1.125	1.078	1.108
18	.625	1.034	1.375	.468	1.125	.142	1.062	1.312	.120	1.0625-18	1.177	1.406	1.250	1.203	1.233
20	.625	1.159	1.375	.468	1.250	.142	1.156	1.438	.120	1.1875-18	1.302	1.406	1.375	1.328	1.358
22	.750	1.284	1.516	.468	1.375	.142	1.250	1.562	.120	1.3125-18	1.427	1.594	1.500	1.453	1.483
24	.800	1.409	1.500	.540	1.500	.142	1.375	1.688	.147	1.4375-18	1.552	1.688	1.625	1.578	1.610

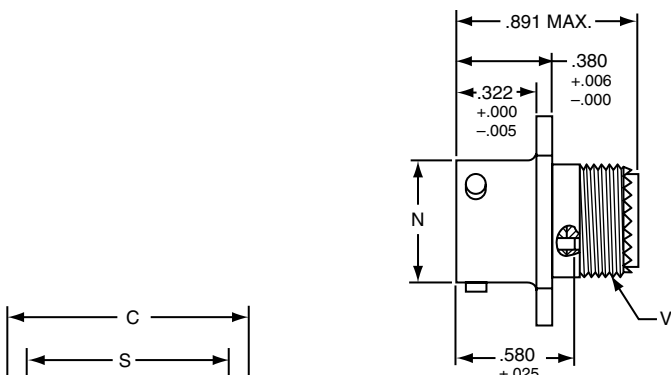
All dimensions for reference only.

38999

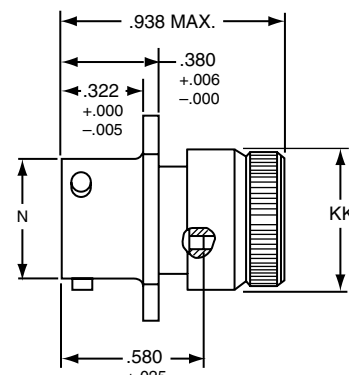
PART # Commercial

Part number reference. To complete,
see how to order pages 62-66.

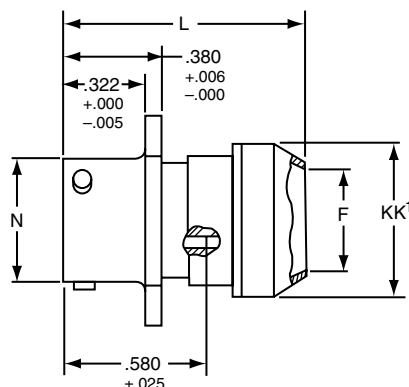
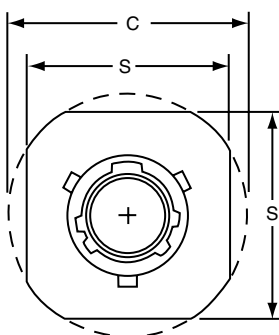
Connector Type	Shell Style	Service Class	Shell Size & Insert Arrg	Contact Type	Alternate Position	Special Variations
JT/JTS/JTN	01	RT	22-2	P	A	(XXX)



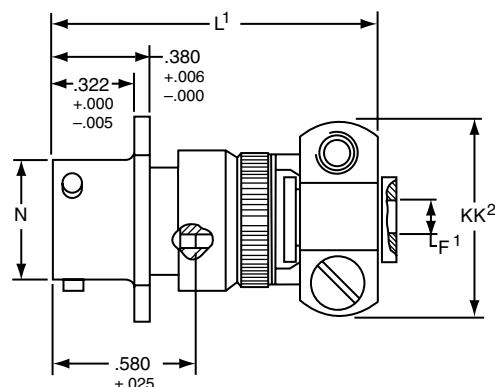
* JT01RT-XX-XXX
** JTS01RT-XX-XXX
*** JTN01RT-XX-XXX



* JT01RE-XX-XXX
** JTS01RE-XX-XXX
*** JTN01RE-XX-XXX



* JT01RP-XX-XXX
** JTS01RP-XX-XXX
*** JTN01RP-XX-XXX



* JT01RE-XX-XXX (SR)
** JTS01RE-XX-XXX (SR)
*** JTN01RE-XX-XXX (SR)

* Standard Junior Tri-Lock
** High temperature version
*** Clear iridite finish (gold color), N₂O₄ resistant

Shell Size	C Max.	F Dia. +.010	F¹ Dia. -.025	L Max.	L¹ Max.	N Dia. +.001 -.005	S +.017 -.016	V Thread UNEF Class 2A (Plated)	KK Dia. Max.	KK¹ Dia. Max.	KK² Max.
8	.965	.444	.125	1.031	1.562	.473	.812	.4375-28	.578	.625	.812
10	1.089	.558	.188	1.031	1.562	.590	.938	.5625-24	.703	.750	.875
12	1.183	.683	.312	1.031	1.562	.750	1.031	.6875-24	.828	.875	1.000
14	1.277	.808	.375	1.031	1.812	.875	1.125	.8125-20	.953	1.000	1.125
16	1.371	.909	.500	1.031	1.812	1.000	1.219	.9375-20	1.078	1.125	1.188
18	1.465	1.034	.625	1.031	1.812	1.125	1.312	1.0625-18	1.203	1.250	1.438
20	1.589	1.159	.625	1.031	1.812	1.250	1.438	1.1875-18	1.328	1.375	1.438
22	1.715	1.284	.750	1.031	1.938	1.375	1.562	1.3125-18	1.453	1.500	1.625
24	1.838	1.409	.800	1.109	1.938	1.500	1.688	1.4375-18	1.578	1.625	1.719

All dimensions for reference only.

JT02RE (MS27499) Series II – Crimp

JT02RE (053) (MS27513)

Box Mounting Receptacle

PART

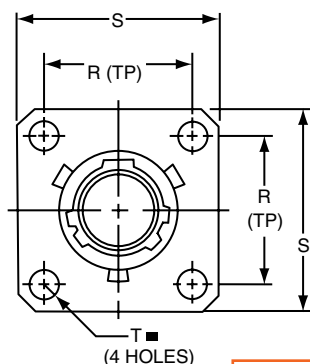
Commercial

Part number reference. To complete, see how to order pages 62-66.

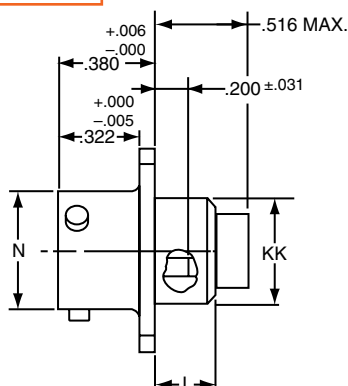
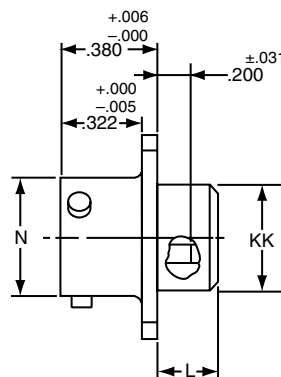
Connector Type	Shell Style	Service Class	Shell Size & Insert Arrg	Contact Type	Alternate Position	Special Variations
JT/JTS/JTN	02	RE	22-2	P	A	(XXX)

Military

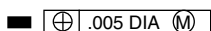
MS Number	Service Class	Shell Size	Finish	Insert Arrg	Contact Style (P or S)	Alternate Position
MS27499	E	14	A	18	P	A
MS27513	E	14	A	18	P	A



- * JT02RE-XX-XXX (MS27499)
- ** JTS02RE-XX-XXX
- *** JTN02RE-XX-XXX



- * JT02RE-XX-XXX (053) (MS27513)
- ** JTS02RE-XX-XXX (053)
- *** JTN02RE-XX-XXX (053)



- * Standard Junior Tri-Lock
- ** High temperature version
- *** Clear iridite finish (gold color), N₂O₄ resistant

All dimensions for reference only.

NOTE: For applications requiring an environmental seal, please refer to JT00R, page 63.

38999

III

HD

Dualok

II

I

SJT

Accessories

Aquacon

Herm/Seal

PCB

HIGH SPEED

Fiber Optics

Contacts
Connectors
Cables

EMI Filter
Transient

26482
Matrix 2

83723 III
Matrix | Pyle

26500
Pyle

5015
Crimp Rear
Release
Matrix

22992
Class L

Back-
Shells

Options
Others

JTP02R (MS27508) Series II – Crimp Box Mounting Receptacle Back Panel Mounting

38999

PART

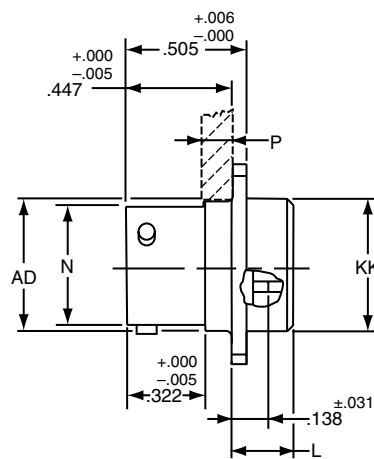
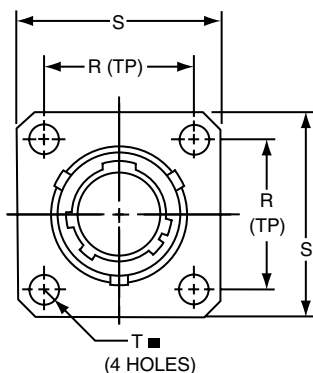
Commercial

Part number reference. To complete,
see how to order pages 62-66.

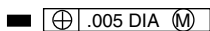
Connector Type	Shell Style	Service Class	Shell Size & Insert Arrg	Contact Type	Alternate Position	Special Variations
JT/JTPS/JTPN	02	RE	22-2	P	A	(XXX)

Military

MS Number	Service Class	Shell Size	Finish	Insert Arrg	Contact Style (P or S)	Alternate Position
MS27508	E	14	A	18	P	A



* JTP02RE-XX-XXX (MS27508E)
** JTPS02RE-XX-XXX
***JTPN02RE-XX-XXX



- * Standard Junior Tri-Lock
- ** High temperature version
- *** Clear iridite finish (gold color), N_2O_4 resistant

Shell Size	L Max.	N +.001 -.005	P Max. Panel Thickness	R (TP)	S ±.016	T Dia. ±.005	AD Dia. ±.005	KK Dia. Max.
8	.225	.473	.147	.594	.812	.120	.516	.531
10	.225	.590	.152	.719	.938	.120	.633	.656
12	.225	.750	.152	.812	1.031	.120	.802	.828
14	.225	.875	.152	.906	1.125	.120	.927	.953
16	.225	1.000	.152	.969	1.219	.120	1.052	1.078
18	.225	1.125	.152	1.062	1.312	.120	1.177	1.203
20	.225	1.250	.179	1.156	1.438	.120	1.302	1.328
22	.225	1.375	.179	1.250	1.562	.120	1.427	1.453
24	.225	1.500	.169	1.375	1.688	.147	1.552	1.578

JT06R (MS27473) Series II – Crimp Straight Plug

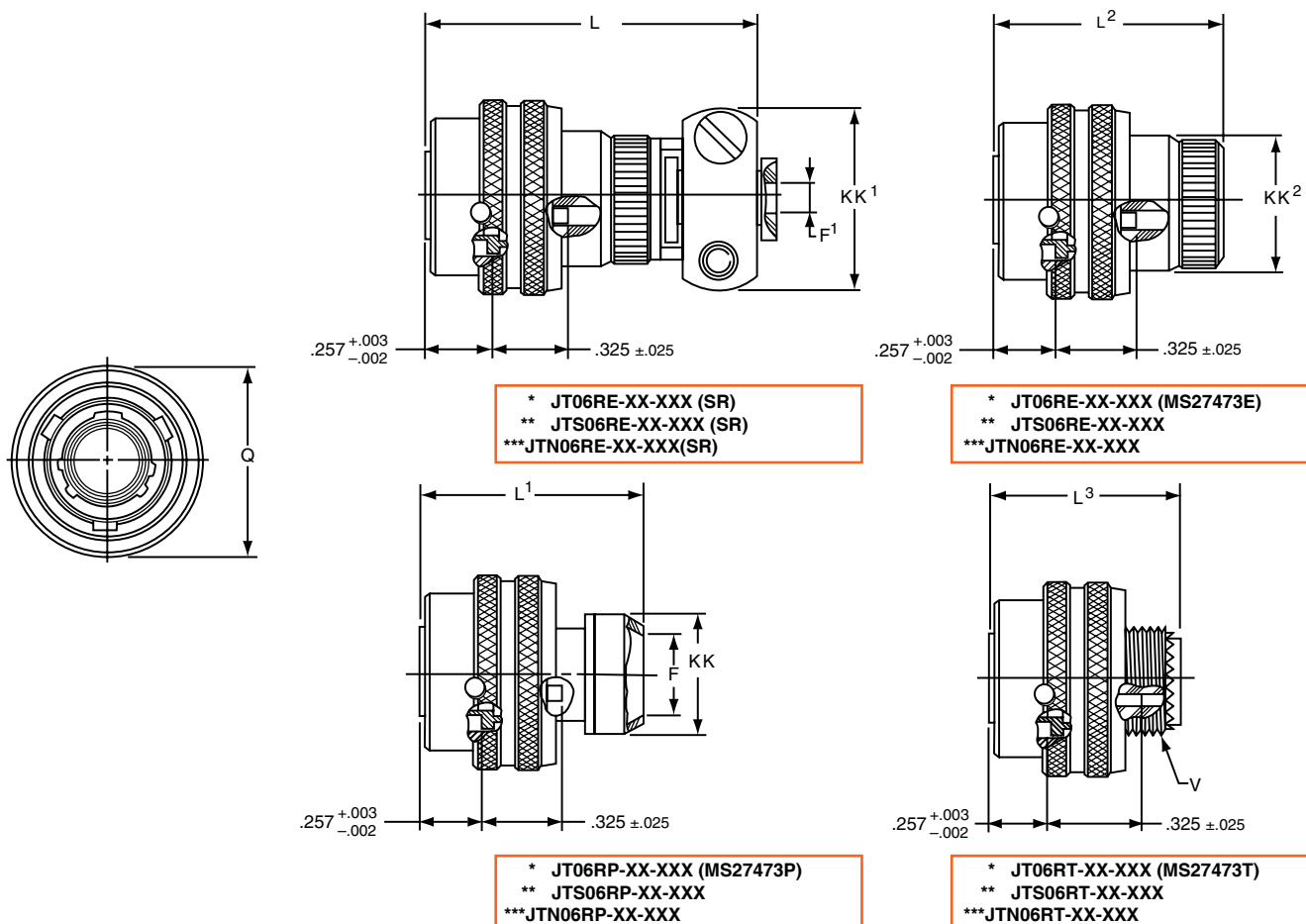
PART # Commercial

Part number reference. To complete,
see how to order pages 62-66.

Connector Type	Shell Style	Service Class	Shell Size & Insert Arrg	Contact Type	Alternate Position	Special Variations
JT/JTS/JTN	06	RE	22-2	P	A	(XXX)

Military

MS Number	Service Class	Shell Size	Finish	Insert Arrg	Contact Style (P or S)	Alternate Position
MS27473	E	14	A	18	P	A



- * Standard Junior Tri-Lock
- ** High temperature version
- *** Clear iridite finish (gold color), N₂O₄ resistant

Shell Size	F Dia.	F ¹ Dia. +.001 -.025	L Max.	L ¹ Max.	L ² Max.	L ³ Max.	Q Dia Max.	V Thread Modified		KK Dia. Max.	KK ¹ Max.	KK ² Dia. Max.
								Class 2A UNEF	Modified Major Dia.			
8	.444	.125	1.562	1.000	.938	.891	.734	.4375-28	.421 – .417	.625	.812	.578
10	.558	.188	1.562	1.000	.938	.891	.844	.5625-24	.542 – .538	.750	.875	.703
12	.683	.312	1.562	1.000	.938	.891	1.016	.6875-24	.667 – .663	.875	1.000	.828
14	.808	.375	1.812	1.000	.938	.891	1.141	.8125-20	.791 – .787	1.000	1.125	.953
16	.909	.500	1.812	1.000	.938	.891	1.265	.9375-20	.916 – .912	1.125	1.188	1.078
18	1.034	.625	1.812	1.000	.938	.891	1.391	1.0625-18	1.034 – 1.030	1.250	1.438	1.203
20	1.159	.625	1.812	1.000	.938	.891	1.500	1.1875-18	1.158 – 1.154	1.375	1.438	1.328
22	1.284	.750	1.938	1.000	.938	.891	1.625	1.3125-18	1.283 – 1.279	1.500	1.625	1.453
24	1.409	.800	1.938	1.062	.938	.891	1.750	1.4375-18	1.408 – 1.404	1.625	1.719	1.578

All dimensions for reference only.

38999

III
HD
Dualok
II
I
SJT
Accessories
Aquacon
Herm/Seal
PCB

HIGH
SPEED
Fiber
Optics
Contacts
Connectors
Cables

EMI Filter
Transient

26482
Matrix 2
83723 III
Matrix | Pyle

26500
Pyle

5015
Crimp Rear
Release
Matrix

22992
Class L

Back-
Shells

Options
Others

38999

PART

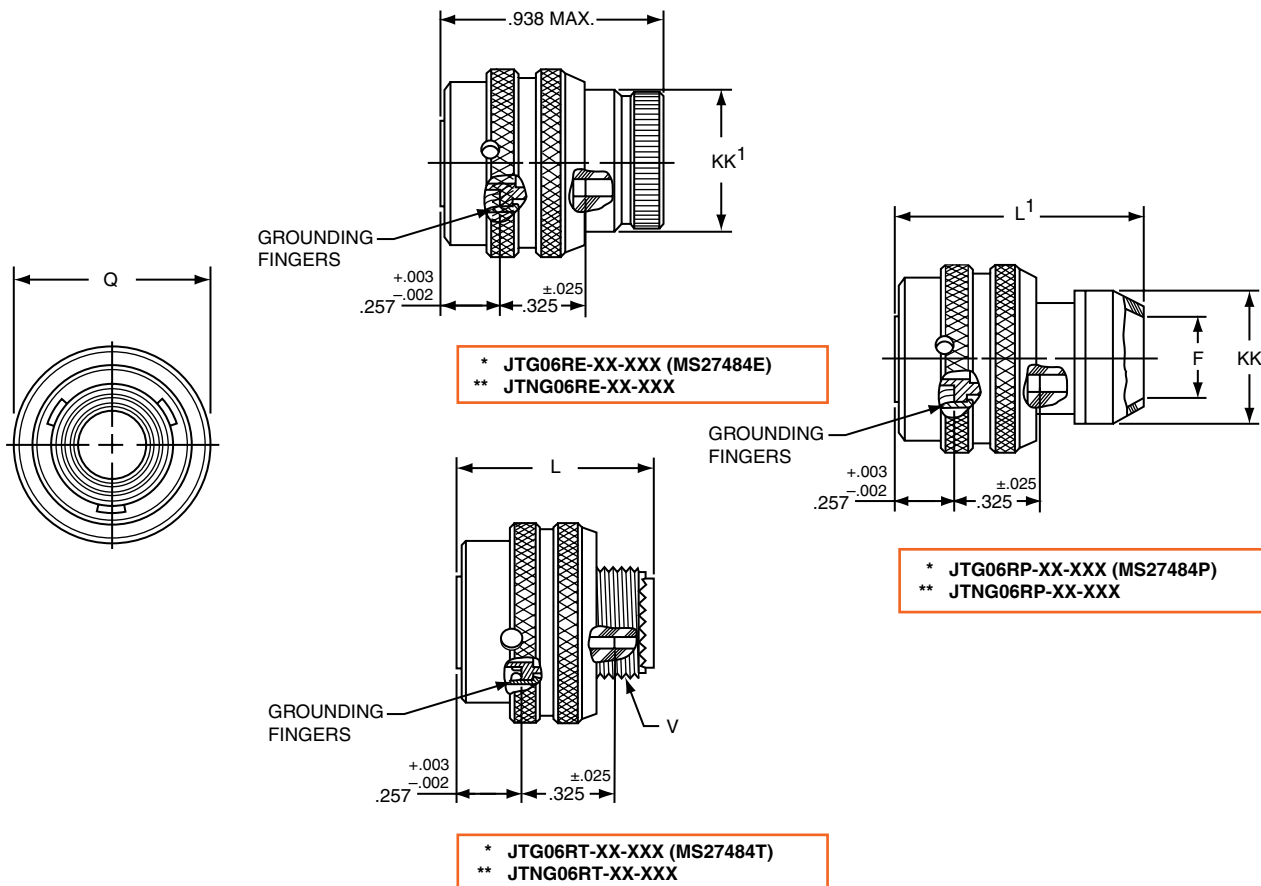
Commercial

Part number reference. To complete, see how to order pages 62-66.

Connector Type	Shell Style	Service Class	Shell Size & Insert Arrg	Contact Type	Alternate Position	Special Variations
JTG/JTNG	06	RE	22-2	P	A	(XXX)

Military

MS Number	Service Class	Shell Size	Finish	Insert Arrg	Contact Style (P or S)	Alternate Position
MS27484	E	14	A	18	P	A



* Plug with grounding fingers

** Clear iridite finish (gold color), N₂O₄ resistant

Shell Size	F Dia.	L Max.	L' Max.	Q Dia Max.	V Thread Modified		KK Dia. Max.	KK' Dia. Max.
					Class 2A UNEF	Modified Major Dia.		
8	.444	.891	1.000	.734	.4375-28	.421 – .417	.625	.578
10	.558	.891	1.000	.844	.5625-24	.542 – .538	.750	.703
12	.683	.891	1.000	1.016	.6875-24	.667 – .663	.875	.828
14	.808	.891	1.000	1.141	.8125-20	.791 – .787	1.000	.953
16	.909	.891	1.000	1.265	.9375-20	.916 – .912	1.125	1.078
18	1.034	.891	1.000	1.391	1.0625-18	1.034 – 1.030	1.250	1.203
20	1.159	.891	1.000	1.500	1.1875-18	1.158 – 1.154	1.375	1.328
22	1.284	.891	1.000	1.625	1.3125-18	1.283 – 1.279	1.500	1.453
24	1.409	.891	1.062	1.750	1.4375-18	1.408 – 1.404	1.625	1.578

All dimensions for reference only.

JT07R (MS27474) Series II – Crimp Jam Nut Receptacle

PART # Commercial

Part number reference. To complete, see how to order pages 62-66.

Connector Type	Shell Style	Service Class	Shell Size & Insert Arrg	Contact Type	Alternate Position	Special Variations
JT/JTS/JTN	07	RE	22-2	P	A	(XXX)

Military

MS Number	Service Class	Shell Size	Finish	Insert Arrg	Contact Style (P or S)	Alternate Position
MS27474	E	14	A	18	P	A

38999

III

HD

Dualok

II

I

SJT

Accessories

Aquacon

Herm/Seal

PCB

HIGH
SPEED

Fiber
Optics

Contacts
Connectors
Cables

EMI Filter
Transient

26482
Matrix 2

83723 III
Matrix | Pyle

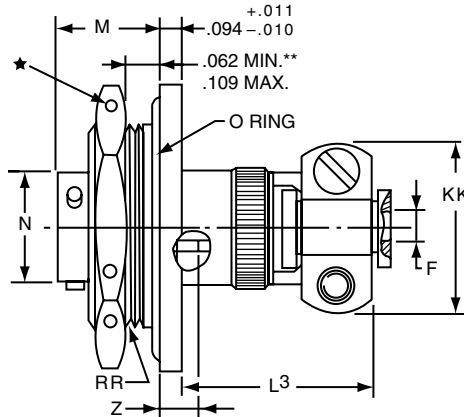
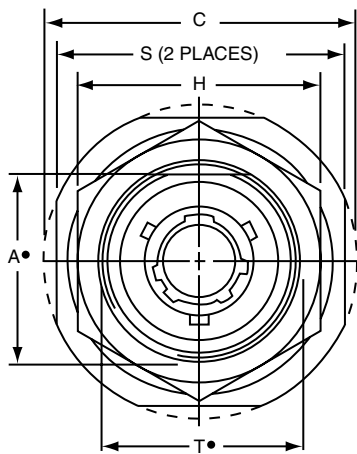
26500
Pyle

5015
Crimp Rear
Release
Matrix

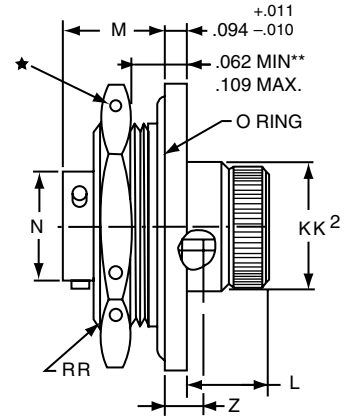
22992
Class 1

Back-
Shells

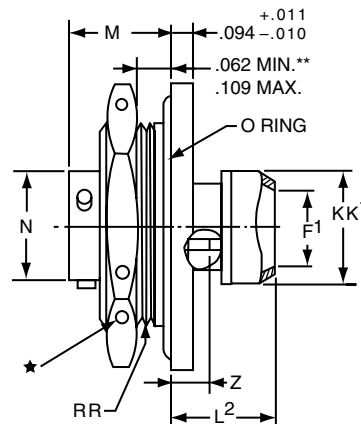
Options
Others



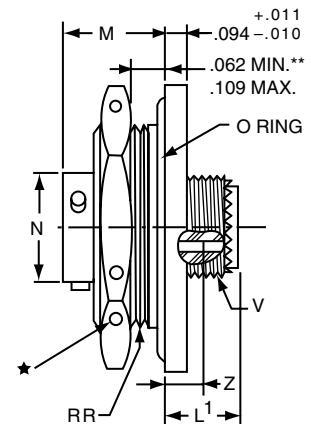
* JT07RE-XX-XXX (SR)
*** JTS07RE-XX-XXX (SR)
**** JTN07RE-XX-XXX (SR)



* JT07RE-XX-XXX (MS27474E)
*** JTS07RE-XX-XXX
**** JTN07RE-XX-XXX



* JT07RP-XX-XXX (MS27474P)
*** JTS07RP-XX-XXX
**** JTN07RP-XX-XXX



* JT07RT-XX-XXX (MS27474T)
*** JTS07RT-XX-XXX
**** JTN07RT-XX-XXX

- ★ .059 Dia. Min. 3 lockwire holes.
Formed lockwire hole design (6 holes) is optional.
- "D" shaped mounting hole dimensions.
- * Standard Junior Tri-Lock
- ** Panel Thickness
- *** High temperature version
- **** Clear iridite finish (gold color), N₂O₄ resistant

Shell Size	A* +.000 -.010	C Max.	F Dia. +.010 -.025	F' Dia.	H Hex +.017 -.016	L Max.	L' Max.	L ² Max.	L ³ Max.	M ±.005	N Dia. +.001 -.005	S ±.016	T* +.010 -.000	V Thread UNEF Class 2A	Z ±.031	KK Max.	KK ¹ Dia. Max.	KK ² Max.	RR Thread (Plated) Class 2A
8	.830	1.390	.125	.444	1.062	.484	.453	.563	1.047	.438	.473	1.250	.884	.4375-28	.144	.812	.625	.578	.8750-20UNEF
10	.955	1.515	.188	.558	1.188	.484	.453	.563	1.047	.438	.590	1.375	1.007	.5625-24	.144	.875	.750	.703	1.0000-20UNEF
12	1.084	1.640	.312	.683	1.312	.484	.453	.563	1.047	.438	.750	1.500	1.134	.6875-24	.144	1.000	.875	.828	1.1250-18UNEF
14	1.208	1.765	.375	.808	1.438	.484	.453	.563	1.297	.438	.875	1.625	1.259	.8125-20	.144	1.125	1.000	.953	1.2500-18UNEF
16	1.333	1.953	.500	.909	1.562	.484	.453	.563	1.297	.438	1.000	1.781	1.384	.9375-20	.144	1.188	1.125	1.078	1.3750-18UNEF
18	1.459	2.031	.625	1.034	1.688	.484	.453	.563	1.297	.438	1.125	1.890	1.507	1.0625-18	.144	1.438	1.250	1.203	1.5000-18UNEF
20	1.576	2.156	.625	1.159	1.812	.453	.422	.531	1.266	.464	1.250	2.016	1.634	1.1875-18	.188	1.438	1.375	1.328	1.6250-18UNEF
22	1.701	2.280	.750	1.284	2.000	.453	.422	.531	1.391	.464	1.375	2.140	1.759	1.3125-18	.188	1.625	1.500	1.453	1.7500-18UNS
24	1.826	2.405	.800	1.409	2.125	.375	.422	.609	1.391	.464	1.500	2.265	1.884	1.4375-18	.188	1.719	1.625	1.578	1.8750-16UN

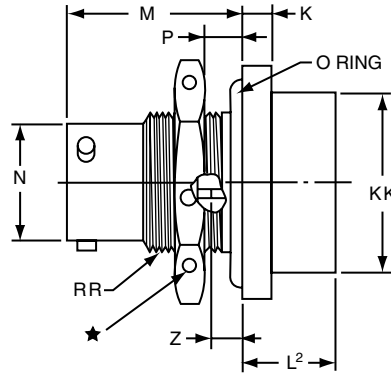
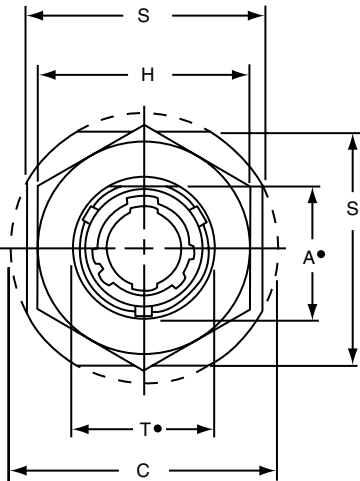
All dimensions for reference only.

38999

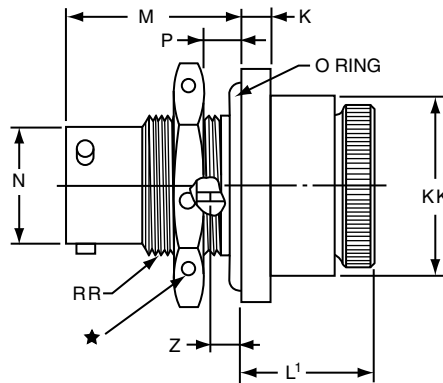
PART # Commercial

Part number reference. To complete, see how to order pages 62-66.

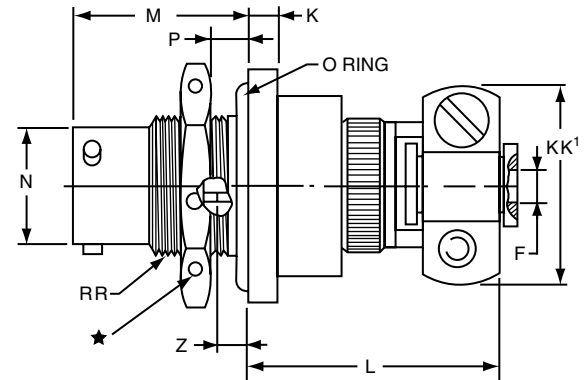
Connector Type	Shell Style	Service Class	Shell Size & Insert Arrg	Contact Type	Alternate Position	Special Variations
JTL/JTLS/JTLN	07	RP	22-2	P	A	(XXX)



* JTL07RP-XX-XXX
*** JTLS07RP-XX-XXX
**** JTLN07RP-XX-XXX



* JTL07RE-XX-XXX
*** JTLS07RE-XX-XXX
**** JTLN07RE-XX-XXX



* JTL07RE-XX-XXX (SR)
*** JTLS07RE-XX-XXX (SR)
**** JTLN07RE-XX-XXX (SR)

- ★ .059 Dia. Min. 3 lockwire holes. Formed lockwire hole design (6 holes) is optional.
- "D" shaped mounting hole dimensions.
- * Miniature mounting dimensions
- *** High temperature version
- **** Clear iridite finish (gold color), N₂O₄ resistant

Shell Size	A* +.000 -.010	C Max.	F Dia. +.010 -.025	H Hex +.017 -.016	K +.011 -.010	L Max.	L¹ Max.	L² Max.	M ±.005	N Dia. +.001 -.005	P Panel Thickness		S ±.016	T* +.010 -.000	Z ±.026	KK Dia. Max.	KK¹ Max.	RR Thread Class 2A
											Min.	Max.						
8	.542	1.077	.125	.750	.125	1.062	.641	.375	.630	.473	.062	.125	.938	.572	.047	.688	.812	.5625-24UNEF
10	.669	1.203	.188	.875	.125	1.062	.641	.375	.630	.590	.062	.125	1.062	.697	.047	.812	.875	.6875-24UNEF
12	.830	1.390	.312	1.062	.125	1.062	.641	.375	.630	.750	.062	.125	1.250	.844	.047	.938	1.000	.8750-20UNEF
14	.955	1.515	.375	1.188	.125	1.062	.641	.375	.630	.875	.062	.125	1.375	1.007	.047	1.062	1.125	1.0000-20UNEF
16	1.084	1.640	.500	1.312	.125	1.062	.641	.375	.630	1.000	.062	.125	1.500	1.134	.047	1.188	1.188	1.1250-18UNEF
18	1.208	1.765	.625	1.438	.125	1.062	.641	.375	.630	1.125	.062	.125	1.625	1.259	.047	1.312	1.438	1.2500-18UNEF
20	1.333	1.953	.625	1.562	.156	1.062	.703	.328	.755	1.250	.062	.250	1.812	1.384	.172	1.469	1.438	1.3750-18UNEF
22	1.459	2.075	.750	1.688	.156	1.062	.703	.328	.755	1.375	.062	.250	1.938	1.507	.172	1.594	1.625	1.5000-18UNEF
24	1.575	2.203	.800	1.812	.156	1.062	.703	.328	.755	1.500	.062	.250	2.062	1.634	.172	1.719	1.719	1.6250-18UNEF

All dimensions for reference only.

JT08R (MS27500) Series II – Crimp 90° Plug

PART

Commercial

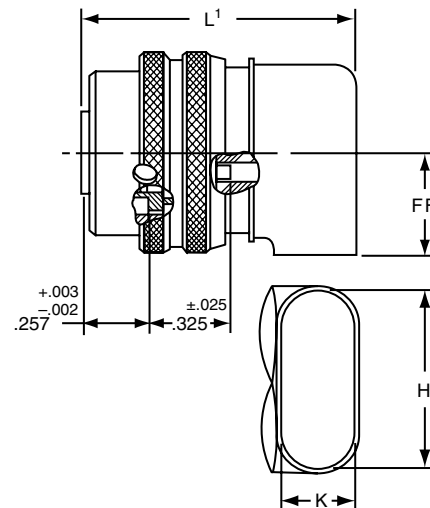
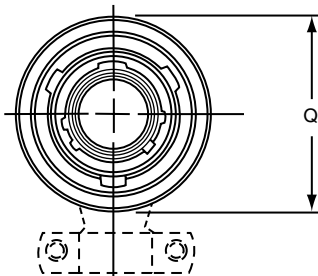
Part number reference. To complete, see how to order pages 62-66.

Connector Type	Shell Style	Service Class	Shell Size & Insert Arrg	Contact Type	Alternate Position	Special Variations
JT/JTS/JTN	08	RP	22-2	P	A	(XXX)

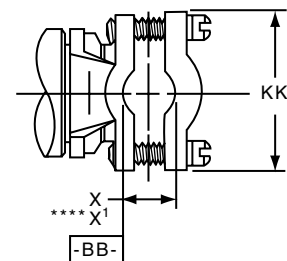
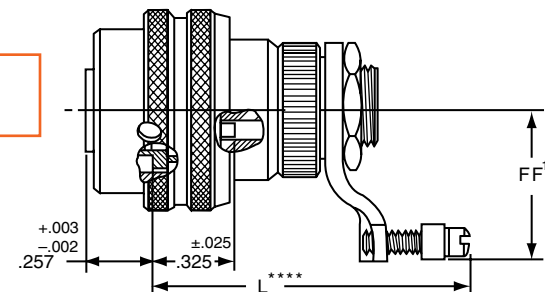
Military

MS Number	Service Class	Shell Size	Finish	Insert Arrg	Contact Style (P or S)	Alternate Position
MS27500	E	14	A	18	P	A

* JT08RP-XX-XXX
** JTS08RP-XX-XXX
*** JTN08RP-XX-XXX



* JT08RE-XX-XXX (MS27500E)
** JTS08RE-XX-XXX
*** JTN08RE-XX-XXX



- * Standard Junior Tri-Lock
- ** High temperature version
- *** Clear iridite finish (gold color), N₂O₄ resistant
- ****Dimensions L and X¹ are applicable when the end of the screw is flush with the surface BB.

Shell Size	H ±.010	K ±.010	L Max.	L ¹ Max.	Q Dia. Max.	X Min. Cable	X ¹ Max. Cable	FF Max.	FF' Max.	KK Max.
8	.547	.156	1.578	1.125	.734	.082	.234	.438	.984	.755
10	.709	.188	1.578	1.156	.844	.082	.234	.516	1.016	.755
12	.829	.281	1.656	1.250	1.016	.114	.328	.594	1.078	.817
14	1.000	.438	1.844	1.406	1.141	.176	.457	.656	1.203	.943
16	1.021	.500	2.000	1.469	1.265	.238	.634	.719	1.265	1.067
18	1.145	.562	2.046	1.531	1.391	.208	.614	.781	1.328	1.149
20	1.270	.625	2.125	1.594	1.500	.302	.608	.844	1.359	1.399
22	1.395	.688	2.250	1.656	1.625	.302	.823	.906	1.421	1.399
24	1.520	.750	2.422	1.797	1.750	.332	.853	.969	1.703	1.587

All dimensions for reference only.

38999

III
HD
Dualok
II
I
SJT
Accessories
Aquacon
Herm/Seal
PCB

HIGH SPEED
Fiber Optics
Contacts
Connectors
Cables

EMI Filter
Transient

26482
Matrix 2

83723 III
Matrix | Pyle

26500
Pyle

5015
Crimp Rear Release Matrix

22992
Class L

Back-
Shells

Options
Others

38999

PART

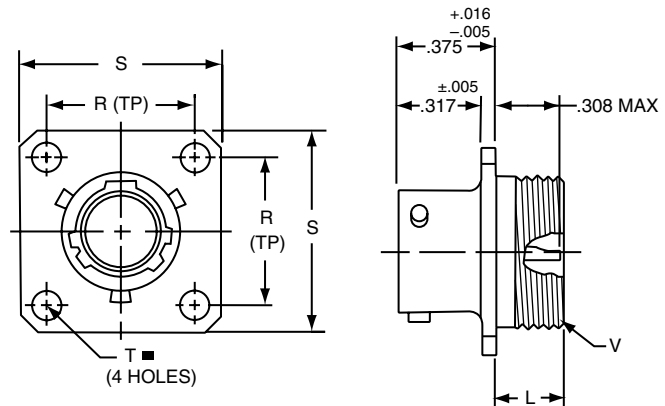
Commercial

Part number reference. To complete, see how to order pages 62-66.

Connector Type	Shell Style	Service Class	Shell Size & Insert Arrg	Contact Type	Alternate Position	Special Variations
JT/JTS	00	H	22-2	P	A	(XXX)

Military

MS Number	Service Class	Shell Size	Finish	Insert Arrg	Contact Style (P or S)	Alternate Position
MS27475	Y	14	A	18	P	A
MS27482	Y	14	A	18	P	A
MS27476	Y	14	A	18	P	A



⊕ .005 DIA (M)

- * Standard Junior Tri-Lock
- ** Interfacial seal wafer
- *** High temperature version, interfacial seal wafer with stainless steel shell

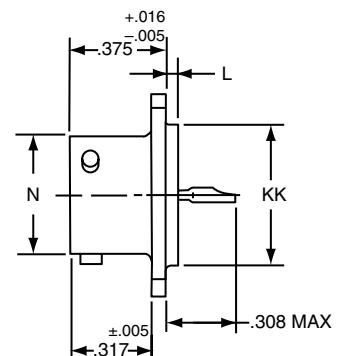
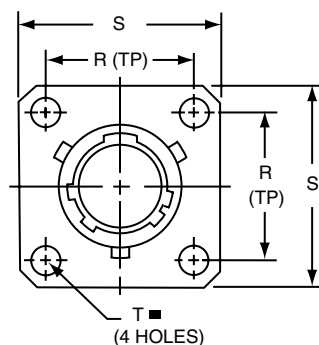
* JT00H-XX-XXX
** JT00Y-XX-XXX (MS27475YXXDXXX)
*** JTS00Y-XX-XXX (MS27482YXXEXXX)

Shell Size	L Max.	N +.001 - .005	R (TP)	S ±.016	T ±.005	V Thread Class 2A
8	.234	.473	.594	.812	.120	.5625-24UNEF
10	.234	.590	.719	.938	.120	.6875-24UNEF
12	.234	.750	.812	1.031	.120	.8125-20UNEF
14	.234	.875	.906	1.125	.120	.9375-20UNEF
16	.234	1.000	.969	1.219	.120	1.0625-18UNEF
18	.234	1.125	1.062	1.312	.120	1.1875-18UNEF
20	.234	1.250	1.156	1.438	.120	1.3125-18UNEF
22	.234	1.375	1.250	1.562	.120	1.4375-18UNEF
24	.313	1.500	1.375	1.688	.147	1.5625-18UNEF

JT02 (MS27476) Series II – Hermetic Box Mounting Receptacle

⊕ .005 DIA (M)

- * Standard Junior Tri-Lock
- ** Interfacial seal wafer
- *** High temperature version, interfacial seal wafer with stainless steel shell

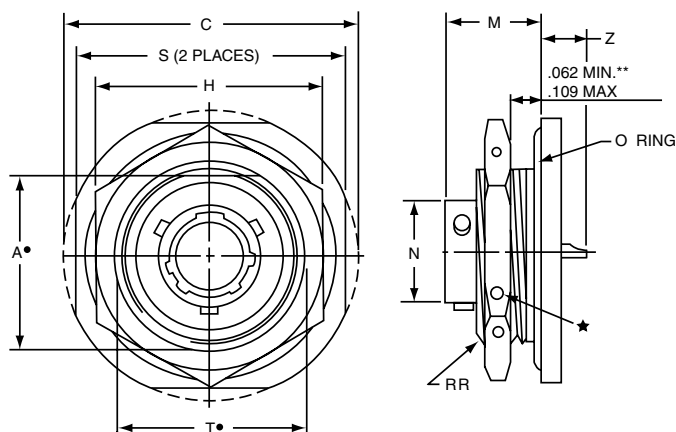


* JT02H-XX-XXX
** JT02Y-XX-XXX (MS27476YXXDXXX)
*** JTS02Y-XX-XXX (MS27476YXXEXXX)

Shell Size	L +.006 - .015	N +.001 - .005	R (TP)	S ±.016	T ±.005	KK +.001 - .005
8	.051	.473	.594	.812	.120	.562
10	.051	.590	.719	.938	.120	.672
12	.051	.750	.812	1.031	.120	.781
14	.051	.875	.906	1.125	.120	.906
16	.051	1.000	.969	1.219	.120	1.031
18	.051	1.125	1.062	1.312	.120	1.156
20	.051	1.250	1.156	1.438	.120	1.250
22	.080	1.375	1.250	1.562	.120	1.375
24	.080	1.500	1.375	1.688	.147	1.500

All dimensions for reference only.

JT07 (MS27477) Series II – Hermetic Jam Nut Receptacle



- * Standard Junior Tri-Lock
- ★ .059 Dia. Min. 3 lockwire holes. Formed lockwire hole design (6 holes) is optional.
- “D” shaped mounting hole dimensions.
- ** Panel Thickness
- *** Interfacial seal wafer
- **** High temperature version, interfacial seal wafer with stainless steel shell

PART # Commercial

Part number reference. To complete, see how to order pages 62-66.

Connector Type	Shell Style	Service Class	Shell Size & Insert Arrg	Contact Type	Alternate Position	Special Variations
JT/JTS	07	H	22-2	P	A	(XXX)

Military

MS Number	Service Class	Shell Size	Finish	Insert Arrg	Contact Style (P or S)	Alternate Position
MS27477	Y	14	A	18	P	A
MS27483	Y	14	A	18	P	A
MS27478	Y	14	A	18	P	A
MS27503	Y	14	A	18	P	A

- * JT07H-XX-XXX
- *** JT07Y-XX-XX (MS27477YXXDXXX)
- **** JTS07Y-XX-XXX (MS27483YXXEXXX)

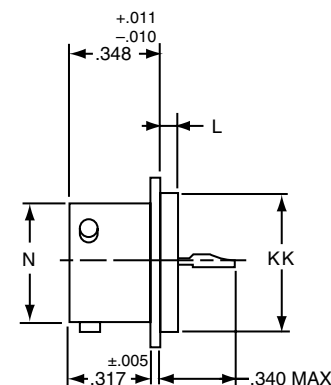
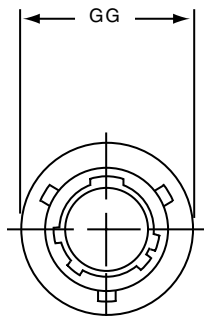
Shell Size	A* +.000 -.010	C Max.	H +.017 -.016	M ±.005	N +.001 -.005	S ±.016	T* +.010 -.000	Z Max.	RR Thread Class 2A
8	.830	1.390	1.062	.438	.473	1.250	.884	.244	.8750-20UNEF
10	.955	1.515	1.188	.438	.590	1.375	1.007	.244	1.0000-20UNEF
12	1.084	1.640	1.312	.438	.750	1.500	1.134	.244	1.1250-18UNEF
14	1.208	1.765	1.438	.438	.875	1.625	1.259	.244	1.2500-18UNEF
16	1.333	1.953	1.562	.438	1.000	1.781	1.384	.244	1.3750-18UNEF
18	1.459	2.031	1.688	.438	1.125	1.890	1.507	.244	1.5000-18UNEF
20	1.576	2.156	1.812	.464	1.250	2.016	1.634	.218	1.6250-18UNEF
22	1.701	2.280	2.000	.464	1.375	2.140	1.759	.218	1.7500-18UNS
24	1.826	2.405	2.125	.464	1.500	2.265	1.884	.218	1.8750-16UN

JTI (MS27478) Series II – Hermetic Solder Mounting Receptacle

- * Standard Junior Tri-Lock
- ** Interfacial seal wafer
- *** High temperature version, interfacial seal wafer with stainless steel shell

- * JTIH-XX-XXX
- ** JTIY-XX-XX (MS27478YXXDXXX)
- *** JTSIY-XX-XXX (MS27503YXXEXXX)

Shell Size	L +.011 -.010	N +.001 -.005	GG +.011 -.010	KK +.001 -.005
8	.078	.473	.687	.562
10	.078	.590	.797	.672
12	.078	.750	.906	.781
14	.078	.875	1.031	.906
16	.078	1.000	1.156	1.031
18	.078	1.125	1.281	1.156
20	.078	1.250	1.375	1.250
22	.107	1.375	1.500	1.375
24	.107	1.500	1.625	1.500



All dimensions for reference only.
Weld mounting hermetic receptacle also available.
Consult Amphenol Aerospace for availability and dimensions.

All dimensions for reference only.

38999

III

HD

Dualok

II

I

SJT

Accessories

Aquacon

Herm/Seal

PCB

HIGH
SPEED

Fiber
Optics

Contacts
Connectors
Cables

EMI Filter
Transient

26482
Matrix 2

83723 III
Matrix | Pyle

26500
Pyle

5015
Crmp Rear
Release
Matrix

22992
Class 1

Back-
Shells

Options
Others

38999

PART

Commercial

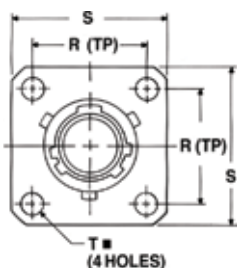
Part number reference. To complete, see how to order pages 62-66.

Connector Type	Shell Style	Service Class	Shell Size & Insert Arrg	Contact Type	Alternate Position	Special Variations
JT/JTN	00	P	22-2	P	A	(XXX)

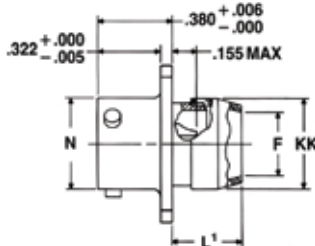
Military

MS Number	Service Class	Shell Size	Finish	Insert Arrg	Contact Style (P or S)	Alternate Position
MS27334	P	14	A	18	P	A
MS27335	T	14	A	18	P	A

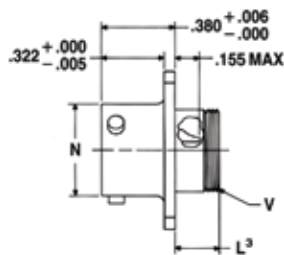
Military qualified to MIL-DTL-27599



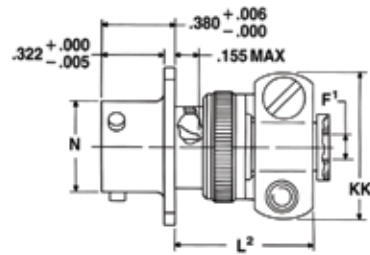
⊕ .005 DIA (M)



*JT00P-XX-XXX (MS27334P)
*JT00P-XX-XXX



*JT00A-XX-XXX
*JT00C-XX-XXX (MS27334T)
*JT00A-XX-XXX
*JT00C-XX-XXX



*JT00A-XX-XXX(SR)
*JT00A-XX-XXX(SR)
*JT00C-XX-XXX(SR)

* Standard Junior Tri-Lock

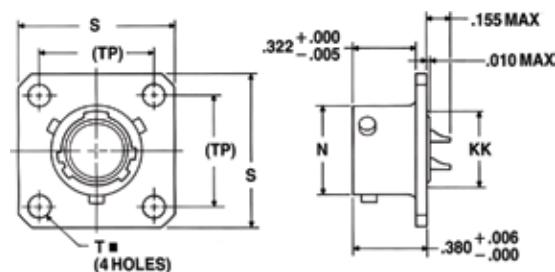
NOTE: For availability of back panel mounting types, consult Amphenol Aerospace.

Shell Size	F Dia. Min.	F¹ +.010 / -.025	L¹ Max.	L² Max.	L³ Max.	N +.001 / -.005	R (TP)	S ±.016	T ±.005	V Thread Modified		KK Dia. Max.	KK¹ Max.
										Size Class 2A	Modified Major Dia.		
8	.312	.125	.422	.734	.234	.473	.594	.812	.120	.4375-28UNEF	.421 - .417	.500	.812
10	.429	.188	.422	.734	.234	.590	.719	.938	.120	.5625-24UNEF	.542 - .538	.625	.875
12	.543	.312	.422	.734	.234	.750	.812	1.031	.120	.6875-24UNEF	.667 - .663	.750	1.000
14	.668	.375	.422	.797	.234	.875	.906	1.125	.120	.8125-20UNEF	.791 - .787	.875	1.125
16	.793	.500	.422	.797	.234	1.000	.969	1.219	.120	.9375-20UNEF	.916 - .912	1.000	1.188
18	.894	.625	.422	.797	.234	1.125	1.062	1.312	.120	1.0625-18UNEF	1.034 - 1.030	1.109	1.438
20	1.019	.625	.422	.859	.234	1.250	1.156	1.438	.120	1.1875-18UNEF	1.158 - 1.154	1.234	1.438
22	1.144	.750	.422	.859	.234	1.375	1.250	1.562	.120	1.3125-18UNEF	1.283 - 1.279	1.359	1.625
24	1.269	.800	.422	.922	.313	1.500	1.375	1.688	.147	1.4375-18UNEF	1.408 - 1.404	1.484	1.719

JT02 (MS27335) Series II – Solder

Box Mounting Receptacle

Military qualified to MIL-DTL-27599



*JT02P-XX-XXX
*JT02A-XX-XXX
*JT02C-XX-XXX (MS27335T)
*JT02P-XX-XXX
*JT02A-XX-XXX
*JT02C-XX-XXX

⊕ .005 DIA (M)

* Standard Junior Tri-Lock

NOTE: For availability of back panel mounting types, consult Amphenol Aerospace.

Shell Size	N +.001 / -.005	R (TP)	S ±.016	T ±.005	KK Max.
8	.473	.594	.812	.120	.391
10	.590	.719	.938	.120	.508
12	.750	.812	1.031	.120	.622
14	.875	.906	1.125	.120	.749
16	1.000	.969	1.219	.120	.872
18	1.125	1.062	1.312	.120	.976
20	1.250	1.156	1.438	.120	1.101
22	1.375	1.250	1.562	.120	1.226
24	1.500	1.375	1.688	.147	1.351

All dimensions for reference only.

JT06 (MS27336) Series II – Solder Straight Plug

Military qualified to MIL-DTL-27599

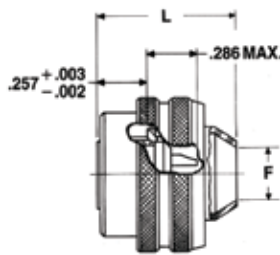
PART # Commercial

Part number reference. To complete, see how to order pages 62-66.

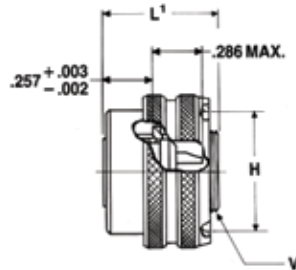
Connector Type	Shell Style	Service Class	Shell Size & Insert Arrg	Contact Type	Alternate Position	Special Variations
JT/JTN/JTG/JTNG	06	A	22-2	P	A	(XXX)

Military

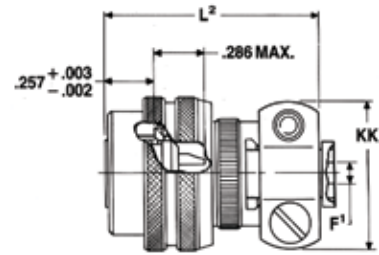
MS Number	Service Class	Shell Size	Finish	Insert Arrg	Contact Style (P or S)	Alternate Position
MS27336	P	14	A	18	P	A



*JT06P-XX-XXX (MS27336P)
*JTN06P-XX-XXX



*JT06A-XX-XXX (MS27336T)
*JTN06A-XX-XXX



*JT06A-XX-XXX(SR)
*JTN06A-XX-XXX(SR)

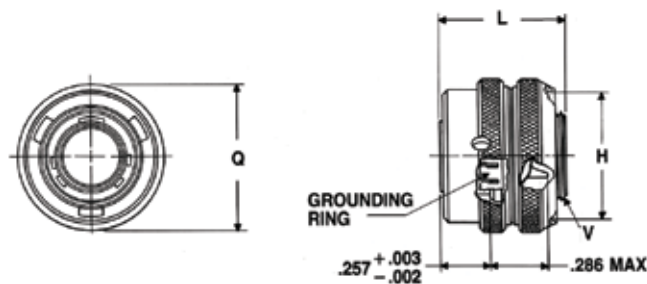
*Standard Junior Tri-Lock

Shell Size	F Min.	F ¹ +.010 / -.025	H +.010 / -.001	L Max.	L ¹ Max.	L ² Max.	Q Max.	V Thread Modified		KK Max.
								Size Class 2A	Modified Major Dia.	
8	.312	.125	.635	.812	.625	1.109	.734	.4375-28UNEF	.421 - .417	.812
10	.429	.188	.734	.812	.625	1.109	.844	.5625-24UNEF	.542 - .538	.875
12	.543	.312	.870	.812	.625	1.109	1.016	.6875-24UNEF	.667 - .663	1.000
14	.668	.375	.996	.812	.625	1.172	1.141	.8125-20UNEF	.791 - .787	1.125
16	.793	.500	1.122	.828	.625	1.172	1.265	.9375-20UNEF	.916 - .912	1.188
18	.894	.625	1.246	.828	.625	1.172	1.391	1.0625-18UNEF	1.034 - 1.030	1.438
20	1.019	.625	1.372	.828	.625	1.234	1.500	1.1875-18UNEF	1.158 - 1.154	1.438
22	1.144	.750	1.496	.828	.625	1.234	1.625	1.3125-18UNEF	1.283 - 1.279	1.625
24	1.269	.800	1.622	.906	.688	1.297	1.750	1.4375-18UNEF	1.408 - 1.404	1.719

Military qualified to MIL-DTL-27599

JTG06A Series II – Solder

Straight Plug (With Grounding Ring)



*JTG06A-XX-XXX
**JTN06A-XX-XXX

* Plug with grounding fingers

** Coupling nut is clear iridite finish (gold color), shell and grounding fingers are gold plated N₂O₄ resistant.

Shell Size	H Dia. +.010 / -.001	L Max.	Q Dia. Max.	V Thread Modified	
				Size Class 2A	Modified Major Dia.
8	.635	.625	.734	.4375-28UNEF	.421 - .417
10	.734	.625	.844	.5625-24UNEF	.542 - .538
12	.870	.625	1.016	.6875-24UNEF	.667 - .663
14	.996	.625	1.141	.8125-20UNEF	.791 - .787
16	1.122	.625	1.265	.9375-20UNEF	.916 - .912
18	1.246	.625	1.391	1.0625-18UNEF	1.034 - 1.030
20	1.372	.625	1.500	1.1875-18UNEF	1.158 - 1.154
22	1.496	.625	1.625	1.3125-18UNEF	1.283 - 1.279
24	1.622	.688	1.750	1.4375-18UNEF	1.408 - 1.404

All dimensions for reference only.

38999

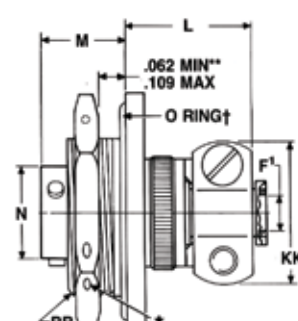
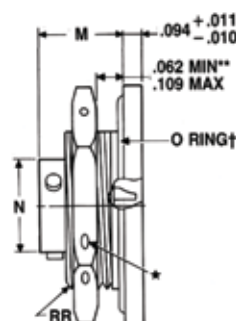
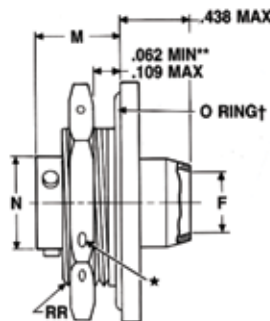
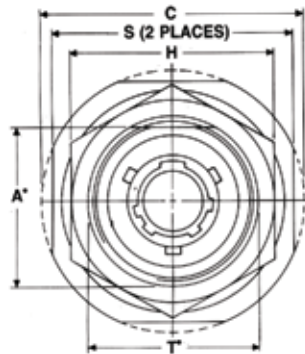
PART

Commercial

Part number reference. To complete, see how to order pages 62-66.

Connector Type	Shell Style	Service Class	Shell Size & Insert Arrg	Contact Type	Alternate Position	Special Variations
JT/JTN	07	A	22-2	P	A	(XXX)

Military qualified to MIL-DTL-27599



- * .059 dia. min. 3 lockwire holes
- "D" shaped mounting hole dimensions.
- * Standard Junior Tri-Lock
- ** Panel thickness
- † O Ring not furnished with MS27337

*JT07P-XX-XXX (MS27337P)
*JT07P-XX-XXX

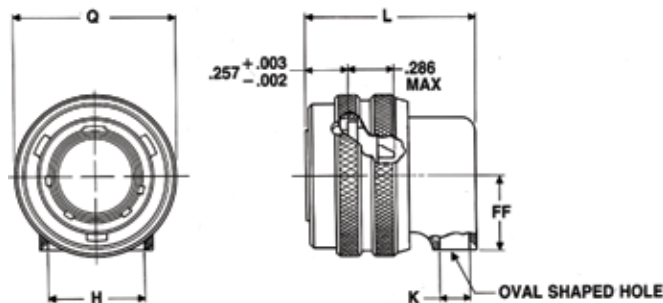
*JT07A-XX-XXX
*JT07C-XX-XXX
*JTN07A-XX-XXX
*JTN07C-XX-XXX

*JT07A-XX-XXX(SR)
*JTN07A-XX-XXX(SR)
*JT07C-XX-XXX(SR)

Shell Size	A* +.000 -.010	C Max.	F Min.	F ¹ +.010 -.025	H +.017 -.016	L Max.	M ±.005	N +.001 -.005	S ±.016	T* +.010 -.000	KK Max.	RR Thread Class 2A
8	.830	1.390	.312	.125	1.062	.666	.438	.473	1.250	.884	.812	.8750-20UNEF
10	.955	1.515	.429	.188	1.188	.666	.438	.590	1.375	1.007	.875	1.0000-20UNEF
12	1.084	1.640	.543	.312	1.312	.666	.438	.750	1.500	1.134	1.000	1.1250-18UNEF
14	1.208	1.765	.668	.375	1.438	.729	.438	.875	1.625	1.259	1.125	1.2500-18UNEF
16	1.333	1.953	.793	.500	1.562	.729	.438	1.000	1.781	1.384	1.188	1.3750-18UNEF
18	1.459	2.031	.894	.625	1.688	.729	.438	1.125	1.890	1.507	1.438	1.5000-18UNEF
20	1.576	2.156	1.019	.625	1.812	.765	.464	1.250	2.016	1.634	1.438	1.6250-18UNEF
22	1.701	2.280	1.144	.750	2.000	.765	.464	1.375	2.140	1.759	1.625	1.7500-18UNS
24	1.826	2.405	1.269	.800	2.125	.828	.464	1.500	2.265	1.884	1.719	1.8750-16UN

JT08 Series II – Solder 90° Plug

Military qualified to MIL-DTL-27599



*JT08P-XX-XXX
*JTN08P-XX-XXX

* To complete order number see page 62.

Shell Size	H Min.	K Min.	L Max.	Q Max.	FF Max.
8	.396	.126	.891	.734	.391
10	.532	.141	.906	.844	.438
12	.694	.173	.938	1.016	.516
14	.814	.266	1.031	1.141	.594
16	.985	.423	1.188	1.265	.656
18	1.006	.485	1.250	1.391	.719
20	1.130	.547	1.312	1.500	.781
22	1.255	.610	1.375	1.625	.844
24	1.380	.673	1.516	1.750	.906

All dimensions for reference only.

Amphenol MIL-DTL-38999, Series I, LJT

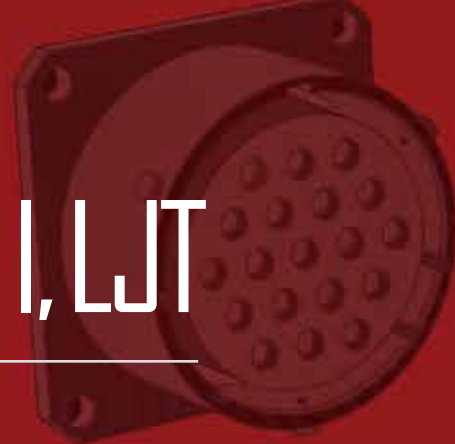


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MIL-DTL-38999 Series I Typical Markets:

- Military & Commercial Aviation
- Military Vehicles
- Missiles & Ordnance
- C4ISR

Amphenol
Aerospace

38999

PART

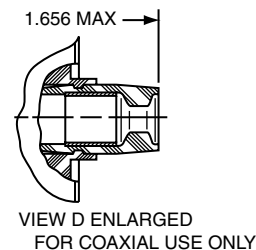
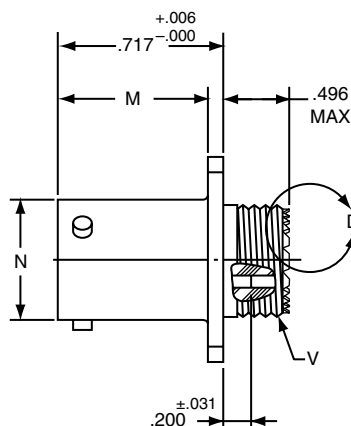
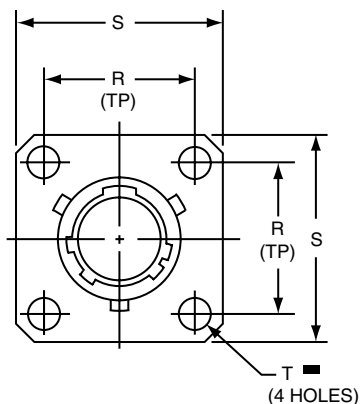
Commercial

Part number reference. To complete, see how to order pages 62-66.

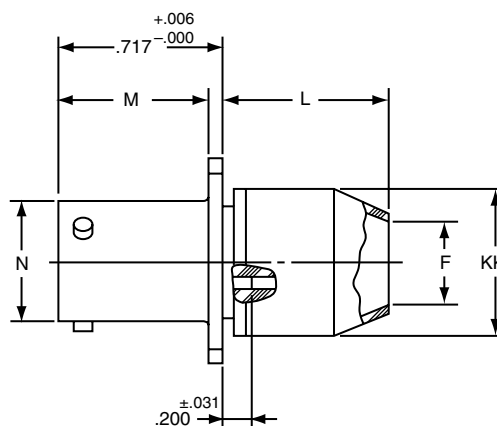
Connector Type	Shell Style	Service Class	Shell Size & Insert Arrg	Contact Type	Alternate Position	Special Variations
LJT	00	RE	22-2	P	A	(XXX)

Military

MS Number	Service Class	Shell Size	Finish	Insert Arrg	Contact Style (P or S)	Alternate Position
MS27466	E	14	A	18	P	A



LJT00RE-XX-XXX (MS27466E)
LJT00RT-XX-XXX (MS27466T)



LJT00RP-XX-XXX (MS27466P)

⊕ .005 DIA ⊖

Shell Size	F Dia. ±.010	L Max.	M +.000 - .005	N +.001 - .005	R (TP)	S ±.016	T Dia. ±.005	V Thread Class 2A (Plated)	KK Dia. Max
9	.444	.813	.632	.572	.719	.938	.128	.4375-28 UNEF	.608
11	.558	.813	.632	.700	.812	1.031	.128	.5625-24 UNEF	.734
13	.683	.813	.632	.850	.906	1.125	.128	.6875-24 UNEF	.858
15	.808	.813	.632	.975	.969	1.219	.128	.8125-20 UNEF	.984
17	.909	.813	.632	1.100	1.062	1.312	.128	.9375-20 UNEF	1.110
19	1.034	.813	.632	1.207	1.156	1.438	.128	1.0625-18 UNEF	1.234
21	1.159	.906	.602	1.332	1.250	1.562	.128	1.1875-18 UNEF	1.360
23	1.284	.906	.602	1.457	1.375	1.688	.147	1.3125-18 UNEF	1.484
25	1.409	.906	.602	1.582	1.500	1.812	.147	1.4375-18 UNEF	1.610

All dimensions for reference only.

LJTPQ00R (MS27656) Series I – Crimp

Wall Mounting Receptacle

(Back Panel Mounting)

PART

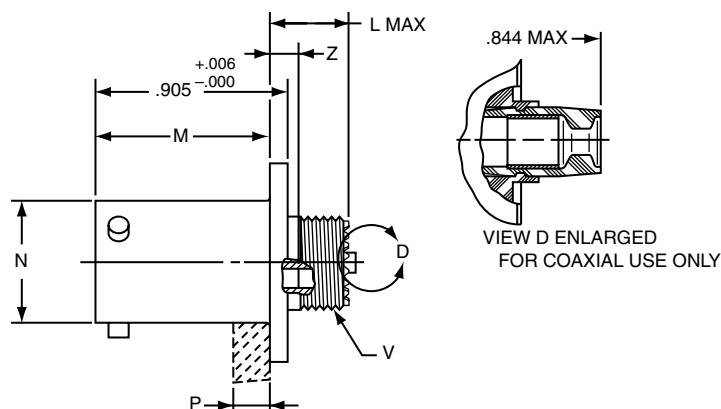
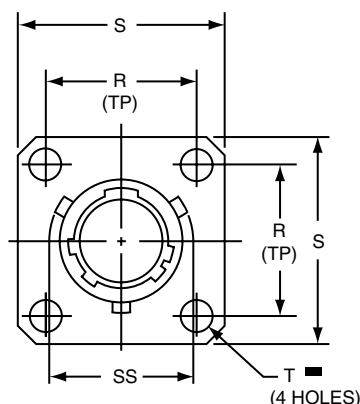
Commercial

Part number reference. To complete, see how to order pages 62-66.

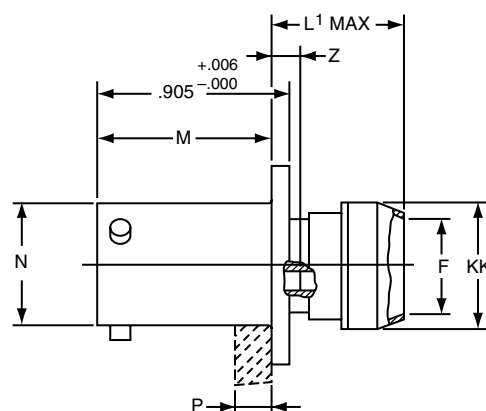
Connector Type	Shell Style	Service Class	Shell Size & Insert Arrg	Contact Type	Alternate Position	Special Variations
LJTPQ	00	RE	22-2	P	A	(XXX)

Military

MS Number	Service Class	Shell Size	Finish	Insert Arrg	Contact Style (P or S)	Alternate Position
MS27656	E	14	A	18	P	A



LJTPQ00RE-XX-XXX (MS27656E)
LJTPQ00RT-XX-XXX (MS27656T)



LJTPQ00RP-XX-XXX (MS27656P)

⊕ .005 DIA M

Shell Size	F Dia. ±.010	L Max.	L' Max.	M +.000 - .005	N Dia.	P Max. Panel Thickness	R (TP)	S ±.011 - .010	T Dia. ±.005	V Thread Class 2A (Plated)	Z Max	KK Dia. Max	SS Dia. +.000 - .016
9	.444	.453	.641	.820	.572	.234	.719	.938	.128	.4375-28 UNEF	.138	.625	.662
11	.558	.453	.641	.820	.700	.234	.812	1.031	.128	.5625-24 UNEF	.138	.750	.810
13	.683	.453	.641	.820	.850	.234	.906	1.125	.128	.6875-24 UNEF	.138	.875	.960
15	.808	.453	.641	.820	.975	.234	.969	1.219	.128	.8125-20 UNEF	.138	1.000	1.085
17	.909	.453	.641	.820	1.100	.234	1.062	1.312	.128	.9375-20 UNEF	.138	1.125	1.210
19	1.034	.453	.641	.820	1.207	.234	1.156	1.438	.128	1.0625-18 UNEF	.138	1.250	1.317
21	1.159	.484	.672	.790	1.332	.204	1.250	1.562	.128	1.1875-18 UNEF	.168	1.375	1.442
23	1.284	.484	.672	.790	1.457	.204	1.375	1.688	.147	1.3125-18 UNEF	.168	1.500	1.567
25	1.409	.484	.672	.790	1.582	.193	1.500	1.812	.147	1.4375-18 UNEF	.168	1.625	1.692

All dimensions for reference only.

Note: MS27656 superseded MS 27515.

38999

III

HD

Dualok

II

I

SJT

Accessories

Aquacon

Herm/Seal

PCB

HIGH SPEED

Fiber Optics

Contacts
Connectors
Cables

EMI Filter
Transient

26482
Matrix 2

83723 III
Matrix | Pyle

26500
Pyle

5015
Crimp Rear Release Matrix

22992
Class I

Back-
Shells

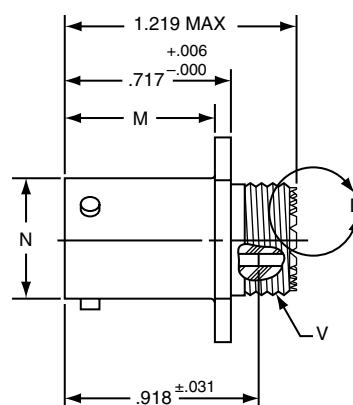
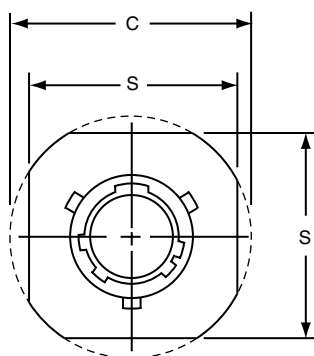
Options
Others

38999

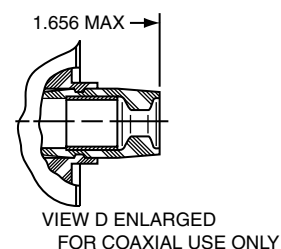
PART # Commercial

Part number reference. To complete, see how to order pages 62-66.

Connector Type	Shell Style	Service Class	Shell Size & Insert Arrg	Contact Type	Alternate Position	Special Variations
LJT	01	RE	22-2	P	A	(XXX)



LJT01RE-XX-XXX
LJT01RT-XX-XXX



Shell Size	C Max.	M +.000 -.005	N +.001 -.005	S ±.016	V Thread Class 2A (Plated)
9	1.094	.632	.572	.938	.4375-28 UNEF
11	1.188	.632	.700	1.031	.5625-24 UNEF
13	1.281	.632	.850	1.125	.6875-24 UNEF
15	1.375	.632	.975	1.219	.8125-20 UNEF
17	1.469	.632	1.100	1.312	.9375-20 UNEF
19	1.594	.632	1.207	1.438	1.0625-18 UNEF
21	1.719	.602	1.332	1.562	1.1875-18 UNEF
23	1.844	.602	1.457	1.688	1.3125-18 UNEF
25	1.969	.602	1.582	1.812	1.4375-18 UNEF

All dimensions for reference only.

LJT02R (MS27496) – Crimp (Box Mount Recept.) LJTP02R (MS27505) – Crimp

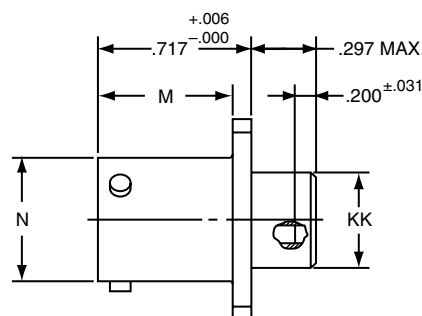
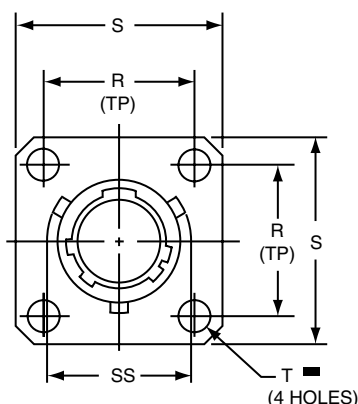
Box Mounting Receptacle (Back Panel Mounting)

PART # Part number reference. To complete, see how to order pages 62-66.
Commercial

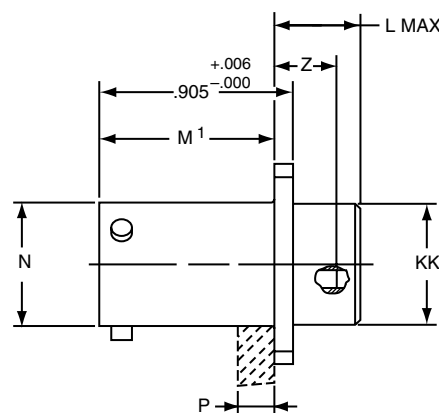
Connector Type	Shell Style	Service Class	Shell Size & Insert Arrg	Contact Type	Alternate Position	Special Variations
LJT/LJTP	02	RE	22-2	P	A	(XXX)

Military

MS Number	Service Class	Shell Size	Finish	Insert Arrg	Contact Style (P or S)	Alternate Position
MS27496	E	14	A	18	P	A
MS27505	E	14	A	18	P	A



LJT02RE-XX-XXX (MS27496E)



LJTP02RE-XX-XXX (MS27505E)

⊕ .005 DIA M

Shell Size	L Max.	M +.000 -.005	M' +.001 -.005	N Dia +.001 -.005	P Max. Panel Thickness	R (TP)	S +.011 -.010	T Dia. ±.005	Z ±.031	KK Dia. +.006 -.005	SS Dia. +.000 -.016
9	.203	.632	.820	.572	.234	.719	.938	.128	.107	.433	.662
11	.203	.632	.820	.700	.234	.812	1.031	.128	.107	.557	.810
13	.203	.632	.820	.850	.234	.906	1.125	.128	.107	.676	.960
15	.203	.632	.820	.975	.234	.969	1.219	.128	.107	.801	1.085
17	.203	.632	.820	1.100	.234	1.062	1.312	.128	.107	.926	1.210
19	.203	.632	.820	1.207	.234	1.156	1.438	.128	.107	1.032	1.317
21	.234	.602	.790	1.332	.204	1.250	1.562	.128	.137	1.157	1.442
23	.234	.602	.790	1.457	.204	1.375	1.688	.147	.137	1.282	1.567
25	.234	.602	.790	1.582	.193	1.500	1.812	.147	.137	1.407	1.692

All dimensions for reference only.

38999

III

HD

Dualok

II

I

SJT

Accessories

Aquacon

Herm/Seal

PCB

HIGH
SPEED

Fiber
Optics

Contacts
Connectors
Cables

EMI Filter
Transient

26482
Matrix 2

83723 III
Matrix | Pyle

26500
Pyle

5015
Crimp Rear
Release
Matrix

22992
Class L

Back-
Shells

Options
Others

38999

PART

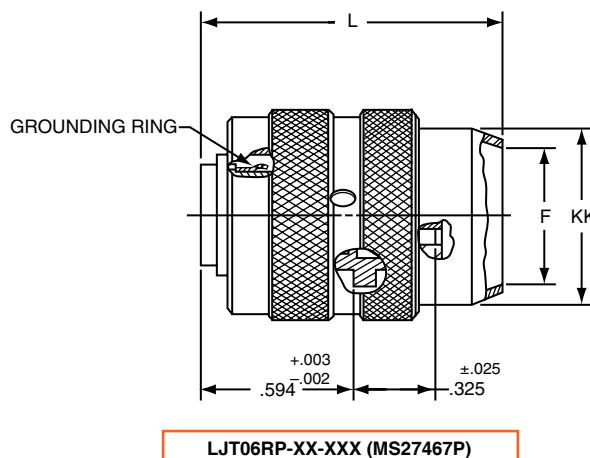
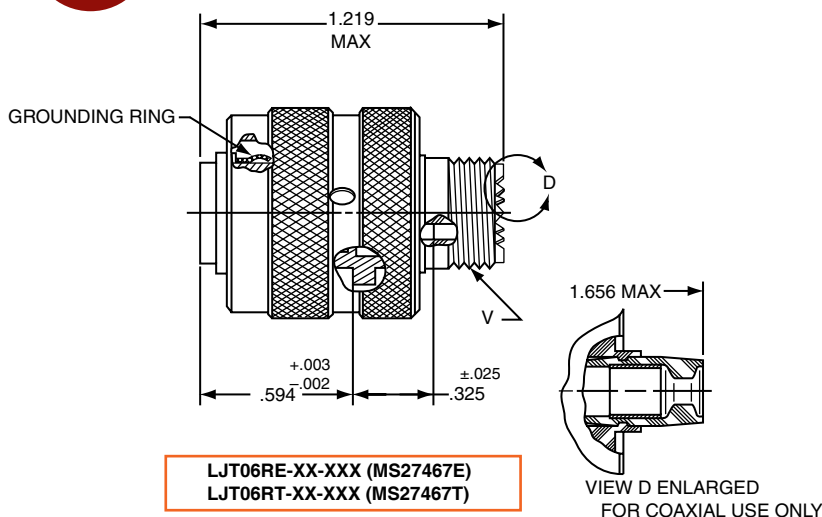
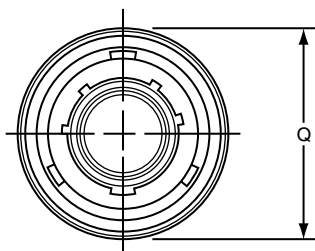
Commercial

Part number reference. To complete, see how to order pages 62-66.

Connector Type	Shell Style	Service Class	Shell Size & Insert Arrg	Contact Type	Alternate Position	Special Variations
LJT	06	RE	22-2	P	A	(XXX)

Military

MS Number	Service Class	Shell Size	Finish	Insert Arrg	Contact Style (P or S)	Alternate Position
MS27467	E	14	A	18	P	A



Shell Size	F Dia. ±.010	L Max.	Q Max.	V Thread Class 2A (Plated)	KK Dia. Max.
9	.444	1.531	.844	.4375-28 UNEF	.608
11	.528	1.531	.969	.5625-24 UNEF	.734
13	.683	1.531	1.141	.6875-24 UNEF	.858
15	.808	1.531	1.266	.8125-20 UNEF	.984
17	.909	1.531	1.391	.9375-20 UNEF	1.110
19	1.034	1.531	1.500	1.0625-18 UNEF	1.234
21	1.159	1.625	1.625	1.1875-18 UNEF	1.360
23	1.284	1.625	1.750	1.3125-18 UNEF	1.484
25	1.409	1.625	1.875	1.4375-18 UNEF	1.610

All dimensions for reference only.

LJT07R (MS27468) Series I – Crimp Jam Nut Receptacle

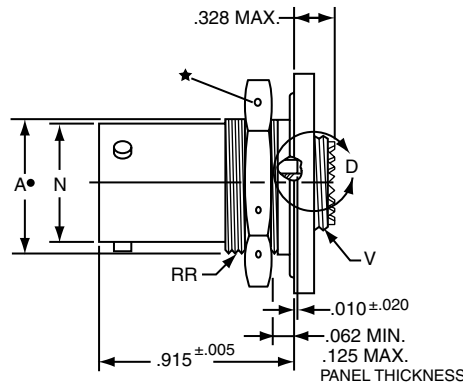
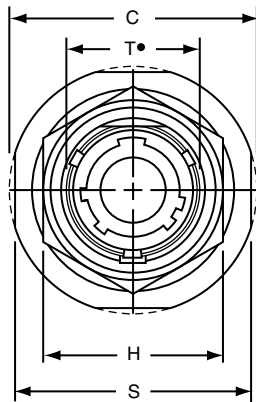
PART # Commercial

Part number reference. To complete, see how to order pages 62-66.

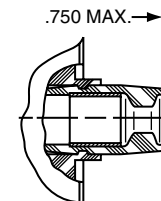
Connector Type	Shell Style	Service Class	Shell Size & Insert Arrg	Contact Type	Alternate Position	Special Variations
LJT	07	RE	22-2	P	A	(XXX)

Military

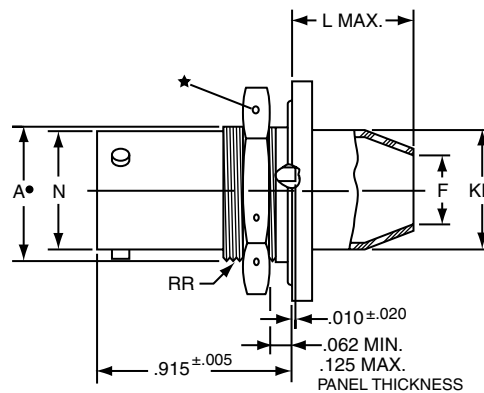
MS Number	Service Class	Shell Size	Finish	Insert Arrg	Contact Style (P or S)	Alternate Position
MS27498	E	14	A	18	P	A



LJT07RE-XX-XXX (MS27468E)
LJT07RT-XX-XXX (MS27468T)



VIEW D ENLARGED
FOR COAXIAL USE ONLY



LJT07RP-XX-XXX (MS27468P)

- ★ .059 Dia. Min. 3 lockwire holes.
- Formed lockwire hole design (6 holes) is optional.
- "D" shaped mounting hole dimensions.

Shell Size	A* +.000 -.010	C Max.	F Dia. ±.010	H Hex +.017 -.016	L Max.	N +.001 -.005	S ±.016	T* +.010 -.000	V Thread Class 2A (Plated)	KK Dia. Max.	RR Thread Class 2A (Plated)
9	.669	1.199	.444	.875	.625	.572	1.062	.697	.4375-28 UNEF	.608	.6875-24 UNEF
11	.769	1.386	.558	1.000	.625	.700	1.250	.822	.5625-24 UNEF	.734	.8125-20 UNEF
13	.955	1.511	.683	1.188	.625	.850	1.375	1.007	.6875-24 UNEF	.858	1.0000-20 UNEF
15	1.084	1.636	.808	1.312	.625	.975	1.500	1.134	.8125-20 UNEF	.984	1.1250-18 UNEF
17	1.208	1.761	.909	1.438	.625	1.100	1.625	1.259	.9375-20 UNEF	1.110	1.2500-18 UNEF
19	1.333	1.949	1.034	1.562	.656	1.207	1.812	1.384	1.0625-18 UNEF	1.234	1.3750-18 UNEF
21	1.459	2.073	1.159	1.688	.750	1.332	1.938	1.507	1.1875-18 UNEF	1.360	1.5000-18 UNEF
23	1.580	2.199	1.284	1.812	.750	1.457	2.062	1.634	1.3125-18 UNEF	1.484	1.6250-18 UNEF
25	1.709	2.323	1.409	2.000	.750	1.582	2.188	1.759	1.4375-18 UNEF	1.610	1.7500-18 UNS

All dimensions for reference only.

38999

III

HD

Dualok

II

I

SJT

Accessories

Aquacon

Herm/Seal

PCB

HIGH
SPEED

Fiber
Optics

Contacts
Connectors
Cables

EMI Filter
Transient

26482
Matrix 2

83723 III
Matrix | Pyle

26500
Pyle

5015
Crimp Rear
Release
Matrix

22992
Class I

Back-
Shells

Options
Others

38999

PART

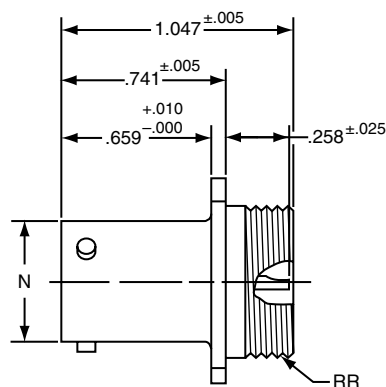
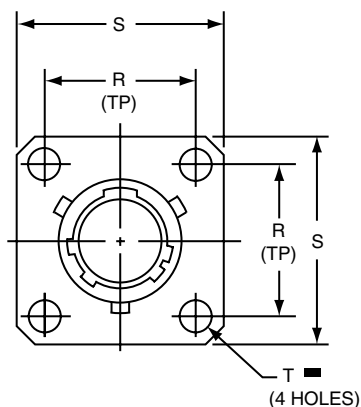
Commercial

Part number reference. To complete, see how to order pages 62-66.

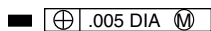
Connector Type	Shell Style	Service Class	Shell Size & Insert Arrg	Contact Type	Alternate Position	Special Variations
LJT/LJTS	00	Y	22-2	P	A	(XXX)

Military

MS Number	Service Class	Shell Size	Finish	Insert Arrg	Contact Style (P or S)	Alternate Position
MS27469	Y	14	D	18	P	A



- * LJT00H-XX-XXX
- ** LJT00Y-XX-XXX (MS27469YXXD)
- *** LJTS00Y-XX-XXX (MS27469YXXE)

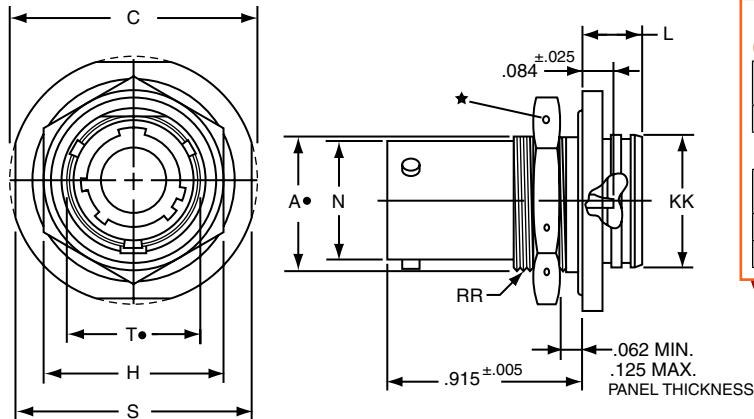


- * Long Junior Tri-Lock
- ** Interfacial seal wafer
- *** High temperature version, interfacial seal wafer with stainless steel shell

Shell Size	N Dia. +.001 -.005	R (TP)	S ±.016	T Dia. ±.005	RR Thread Class 2A
9	.572	.719	.938	.128	.6875-24 UNEF
11	.700	.812	1.031	.128	.8125-20 UNEF
13	.850	.906	1.125	.128	.9375-20 UNEF
15	.975	.969	1.219	.128	1.0625-18 UNEF
17	1.100	1.062	1.312	.128	1.1875-18 UNEF
19	1.207	1.156	1.438	.128	1.3125-18 UNEF
21	1.332	1.250	1.562	.128	1.4375-18 UNEF
23	1.457	1.375	1.688	.147	1.5625-18 UNEF
25	1.582	1.500	1.812	.147	1.6875-18 UNEF

All dimensions for reference only.

LJT07 (MS27470) Series I – Hermetic Jam Nut Receptacle



PART # Commercial

Part number reference. To complete, see how to order pages 62-66.

Connector Type	Shell Style	Service Class	Shell Size & Insert Arrg	Contact Type	Alternate Position	Special Variations
LJT/LJTS	H	RE	22-2	P	A	(XXX)

Military

MS Number	Service Class	Shell Size	Finish	Insert Arrg	Contact Style (P or S)	Alternate Position
MS27470	Y	14	A	18	P	A
MS27471	Y	14	A	18	P	A

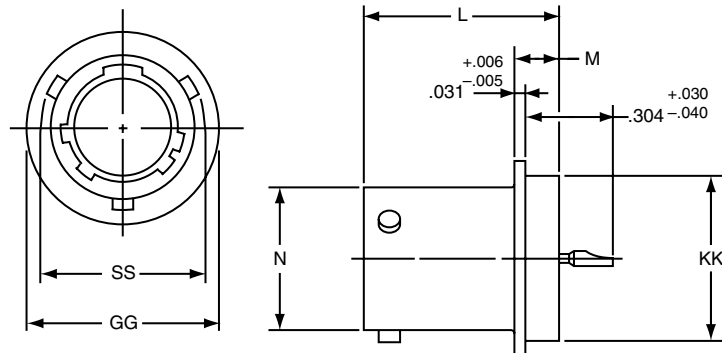
Shell Size	A* +.000 -.010	C Max.	H Hex +.017 -.016	L Max.	N +.000 -.005	S ±.016	T* +.010 -.000	KK +.011 -.000	RR Thread Class 2A (Plated)
9	.669	1.199	.875	.297	.572	1.062	.697	.642	.6875-24 UNEF
11	.769	1.386	1.000	.297	.700	1.250	.822	.766	.8125-20 UNEF
13	.955	1.511	1.188	.297	.850	1.375	1.007	.892	1.0000-20 UNEF
15	1.084	1.636	1.312	.297	.975	1.500	1.134	1.018	1.1250-18 UNEF
17	1.208	1.761	1.438	.297	1.100	1.625	1.259	1.142	1.2500-18 UNEF
19	1.333	1.949	1.562	.328	1.207	1.812	1.384	1.268	1.3750-18 UNEF
21	1.459	2.073	1.688	.328	1.332	1.938	1.507	1.392	1.5000-18 UNEF
23	1.580	2.199	1.812	.328	1.457	2.062	1.634	1.518	1.6250-18 UNEF
25	1.709	2.328	2.000	.328	1.582	2.188	1.759	1.642	1.7500-18 UNS

All dimensions for reference only.

- * LJT07H-XX-XXX
- ** LJT07Y-XX-XXX (MS27470YXXD)
- *** LJTS07Y-XX-XXX (MS27470YXXE)

- ★ .059 Dia. Min. 3 lockwire holes. Formed lockwire hole design (6 holes) is optional.
- "D" shaped mounting hole dimensions.
- * Long Junior Tri-Lock
- ** Interfacial seal wafer
- *** High temperature version, interfacial seal wafer with stainless steel shell

LJTI (MS27471) Series I – Hermetic Solder Mounting Receptacle



- * Long Junior Tri-Lock
- ** Interfacial seal wafer
- *** High temperature version, interfacial seal wafer with stainless steel shell

Shell Size	N Dia. +.001 -.005	SS Dia. +.000 -.016	L +.011 -.000	M +.006 -.005	GG Dia. +.011 -.010	KK Dia. +.001 -.005
9	.572	.662	.789	.125	.750	.672
11	.700	.810	.789	.125	.844	.781
13	.850	.960	.789	.125	.969	.906
15	.975	1.085	.789	.125	1.094	1.031
17	1.100	1.210	.789	.125	1.218	1.156
19	1.207	1.317	.789	.125	1.312	1.250
21	1.332	1.442	.789	.125	1.438	1.375
23	1.457	1.567	.821	.156	1.563	1.500
25	1.582	1.692	.821	.156	1.688	1.625

All dimensions for reference only.

Weld mounting hermetic receptacle also available.

Consult Amphenol Aerospace for availability and dimensions.

- * LJTIH-XX-XXX
- ** LJTIY-XX-XXX (MS27471YXXD)
- *** LJTSIY-XX-XXX (MS27471YXXE)

38999

III

HD

Dualok

II

I

SJT

Accessories

Aquacon

Herm/Seal

PCB

HIGH
SPEED

Fiber
Optics

Contacts
Connectors
Cables

EMI Filter
Transient

26482
Matrix 2

83723 III
Matrix | Pyle

26500
Pyle

5015
Crimp Rear
Release
Matrix

22992
Class I

Back-
Shells

Options
Others

38999

PART # Commercial

Part number reference. To complete, see how to order pages 62-66.

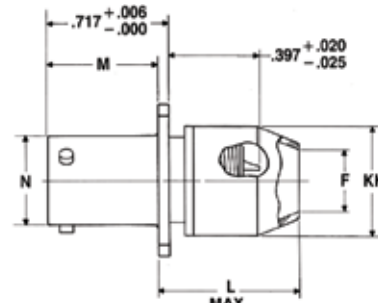
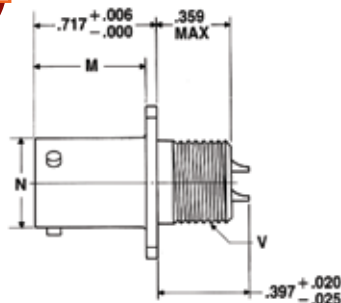
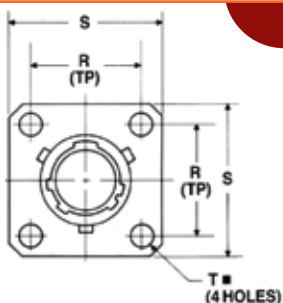
Connector Type	Shell Style	Service Class	Shell Size & Insert Arrg	Contact Type	Alternate Position	Special Variations
LJT	00	P	22-2	P	A	(XXX)

MS Number	Service Class	Shell Size	Finish	Insert Arrg	Contact Style (P or S)	Alternate Position
MS20026	T	14	A	18	P	A
MS20027	T	14	A	18	P	A

Military qualified to MIL-DTL-27599

LJT00T-XX-XXX (MS20026T)

LJT00P-XX-XXX



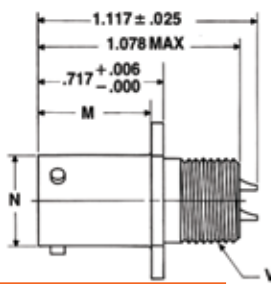
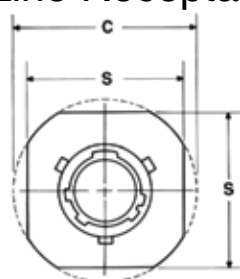
■ $\oplus$.005 DIA (M)

NOTE: For availability of back panel mounting types, check with nearest sales office or call Amphenol Aerospace.

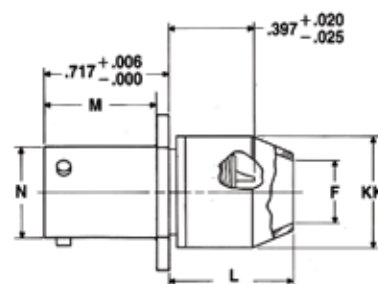
Shell Size	F Dia.	L Max.	M +.000 / -.005	N +.001 / -.005	R (TP)	S ±.016	T Dia. ±.005	V Thread Class 2A UNEF (Plated)	KK Dia. Max.
9	.327	.625	.632	.572	.719	.938	.128	.4375-28	.608
11	.444	.625	.632	.700	.812	1.031	.128	.5625-24	.734
13	.558	.625	.632	.850	.906	1.125	.128	.6875-24	.858
15	.683	.625	.632	.975	.969	1.219	.128	.8125-20	.984
17	.808	.625	.632	1.100	1.062	1.312	.128	.9375-20	1.110
19	.909	.625	.632	1.207	1.156	1.438	.128	1.0625-18	1.234
21	1.034	.703	.602	1.332	1.250	1.562	.128	1.1875-18	1.360
23	1.159	.703	.602	1.457	1.375	1.688	.147	1.3125-18	1.484
25	1.284	.703	.602	1.582	1.500	1.812	.147	1.4375-18	1.610

LJT01 (MS20027) Series I – Solder Line Receptacle

Military qualified to MIL-DTL-27599



LJT01T-XX-XXX (MS20027T)



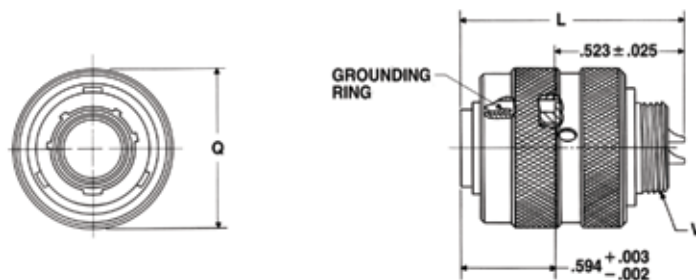
LJT01P-XX-XXX

Shell Size	C Max.	F Dia.	L Max.	M +.000 / -.005	N +.001 / -.005	S ±.016	V Thread Class 2A UNEF (Plated)	KK Dia. Max.
9	1.094	.327	.625	.632	.572	.938	.4375-28	.608
11	1.188	.444	.625	.632	.700	1.031	.5625-24	.734
13	1.281	.558	.625	.632	.850	1.125	.6875-24	.858
15	1.375	.683	.625	.632	.975	1.219	.8125-20	.984
17	1.469	.808	.625	.632	1.100	1.312	.9375-20	1.110
19	1.594	.909	.625	.632	1.207	1.438	1.0625-18	1.234
21	1.719	1.034	.703	.602	1.332	1.562	1.1875-18	1.360
23	1.844	1.159	.703	.602	1.457	1.688	1.3125-18	1.484
25	1.969	1.284	.703	.602	1.582	1.812	1.4375-18	1.610

All dimensions for reference only.

LJT06 (MS20028) Series I – Solder Straight Plug

Military qualified to MIL-DTL-27599



PART # Commercial

Part number reference. To complete, see how to order pages 62-66.

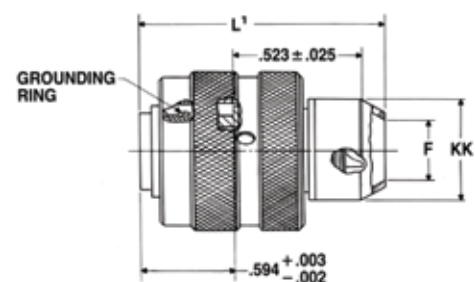
Connector Type	Shell Style	Service Class	Shell Size & Insert Arrg	Contact Type	Alternate Position	Special Variations
LJT	06	T	22-2	P	A	(XXX)

Military

MS Number	Service Class	Shell Size	Finish	Insert Arrg	Contact Style (P or S)	Alternate Position
MS20028	T	14	A	18	P	A
MS20029	T	14	A	18	P	A

LJT06T-XX-XXX (MS20028T)

Shell Size	F Dia.	L Max.	L ¹ Max.	Q Max.	V Thread Class 2A UNEF (Plated)	KK Dia. Max.
9	.327	1.128	1.488	.844	.4375-28	.608
11	.444	1.128	1.488	.969	.5625-24	.734
13	.558	1.128	1.488	1.141	.6875-24	.858
15	.683	1.128	1.488	1.266	.8125-20	.984
17	.808	1.128	1.488	1.391	.9375-20	1.110
19	.909	1.128	1.488	1.500	1.0625-18	1.234
21	1.034	1.128	1.566	1.625	1.1875-18	1.360
23	1.159	1.128	1.566	1.750	1.3125-18	1.484
25	1.284	1.191	1.644	1.875	1.4375-18	1.610



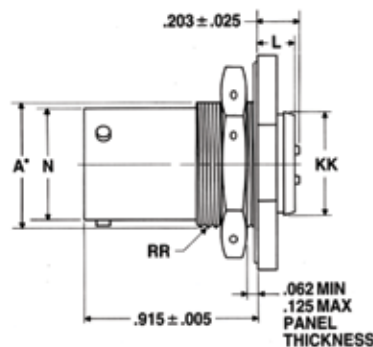
LJT06P-XX-XXX

LJT07 (MS20029) Series I – Solder Jam Nut Receptacle

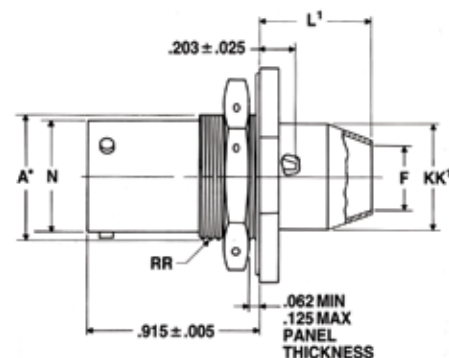
Military qualified to MIL-DTL-27599



- "D" shaped mounting hole dimensions



LJT07T-XX-XXX (MS20029T)



LJT07P-XX-XXX (MS20029P)

Shell Size	A [•] +.000 - .010	C Max.	F Dia.	H Hex +.017 - .016	L Max.	L ¹ Max.	N +.001 - .005	S ±.016	T [•] +.010 - .000	KK +.011 - .000	KK ¹ Dia. Max.	RR Thread Class 2A (Plated)
9	.669	1.199	.327	.875	.234	.625	.572	1.062	.697	.516	.608	.6875-24UNEF
11	.769	1.386	.444	1.000	.234	.625	.700	1.250	.822	.642	.734	.8125-20UNEF
13	.955	1.511	.558	1.188	.234	.625	.850	1.375	1.007	.766	.858	1.0000-20UNEF
15	1.084	1.636	.683	1.312	.234	.625	.975	1.500	1.134	.892	.984	1.1250-18UNEF
17	1.208	1.761	.808	1.438	.234	.625	1.100	1.625	1.259	1.018	1.110	1.2500-18UNEF
19	1.333	1.949	.909	1.562	.266	.625	1.207	1.812	1.384	1.142	1.234	1.3750-18UNEF
21	1.459	2.073	1.034	1.688	.266	.656	1.332	1.938	1.507	1.268	1.360	1.5000-18UNEF
23	1.580	2.199	1.159	1.812	.266	.750	1.457	2.062	1.634	1.392	1.484	1.6250-18UNEF
25	1.709	2.323	1.284	2.000	.266	.750	1.582	2.188	1.759	1.518	1.610	1.7500-18UNS

All dimensions for reference only.

38999

III
HD
Dualok
II
I
SJT
Accessories
Aquacon
Herm/Seal
PCB

HIGH SPEED
Fiber Optics
Contacts
Connectors
Cables

EMI Filter
Transient

26482
Matrix 2
83723 III
Matrix | Pyle

26500
Pyle

5015
Crimp Rear Release
Matrix

22992
Class 1

Back-Shell

Options
Others

38999

INSERT AVAILABILITY

Shell Size / Insert Arrangement	Service Rating	Total Contacts	Contact Size						
			22D	20	16	12	12 Coax	8 Coax*	8 Twinax
11-2	I	2			2				
11-35	M	13	13						
11-98	I	6		6					
13-4	I	4			4				
13-8	I	8		8					
13-35	M	22	22						
13-98	I	10		10					
15-5	II	5			5				
15-15	I	15		14	1				
15-18	I	18		18					
15-19	I	19		19					
15-35	M	37	37						
15-97	I	12		8	4				
17-6	I	6				6			
17-8	II	8			8				
17-26	I	26		26					
17-35	M	55	55						
17-99	I	23		21	2				
19-11	II	11			11				
19-32	I	32		32					
19-35	M	66	66						
21-11	I	11				11			
21-16	II	16			16				
21-35	M	79	79						
21-39	I	39		37	2				
21-41	I	41		41					
23-21	II	21			21				
23-35	M	100	100						
23-53	I	53		53					
23-54	M	53	40		9	4			
23-55	I	55		55					
25-4	I	56		48	8				
25-19	I	19				19			
25-20	N	30		10	13		4		3
25-24	I	24			12	12			
25-29	I	29			29				
25-35	M	128	128						
25-43	I	43		23	20				
25-46	I	46		40	4			2*	
25-61	I	61		61					

TABLE I
INSERT ARRANGEMENT CODE

Basic Part Number	MIL-DTL-38999 Insert Arrangement
88/91-538808	11-99
06	11-35
07	11-98
10	13-4
11	13-8
13	13-98
14	13-35
18	15-5
22	15-18
19	15-19
20	15-35
27	17-6
28	17-8
29	17-26
30	17-35
31	17-99
37	19-11
39	19-32
40	19-35
47	21-11
48	21-16
49	21-35
50	21-41
51	21-39
57	23-21
58	23-35
59	23-53
60	23-55
66	25-19
74	25-4
67	25-29
68	25-35
69	25-43
70	25-61
71	25-46
72	25-2

TABLE II
LANYARD
LENGTH
CODES

Lanyard Length (in.) ±.250	MS	Commercial Code
4.000		40
4.250		41
4.500		42
4.750		43
5.000		50
5.250		51
5.500		52
5.750		53
6.000	No	60
6.250	Code	61
6.500		62
6.750	Std.	63
7.000	Length	70
7.250	6.250	71
7.500		72
7.750		73
8.000		80
8.250		81
8.500		82
8.750		83
9.000		90
9.250		91
9.500		92
9.750		93

LJT Lanyard Separation Forces

Shell Size	Straight Plug (lbs. max.)	15 Degree Pull (lbs. Max.)
11 13 15	45	55
17 19 21 23 25	90	100

* For RG 180/U and RG 195/U cables only. (Check Amphenol Aerospace, Sidney, NY for other cable applications). For availability of other insert arrangements and accessories consult Amphenol Aerospace.

Series I, LJT Breakaway Fail Safe

Lanyard Release Plug How to Order, cont.

HOW TO ORDER - BY MILITARY PART NUMBER FAIL SAFE MS27661

1.	2.	3.	4.	5.	6.	7.
MS Number	Service Class	Shell Size	Finish	Insert Arrg.	Contact Style	Alternate Position
MS27661	T	17	B	35	P	A

1. MS27661 Number

MS Number designates MIL-DTL-38999, Series I LJT Lanyard Release Plug

2. Select a Service Class

E	For environmental crimp applications (inactive for new design)
T	For environmental crimp applications with serrations on rear threads of shell

3. Select a Shell Size

MIL-DTL-38999, sizes 11 through 25, see chart on page 94.

4. Select a Finish

B	Designates corrosion resistant olive drab cadmium plated aluminum, 500 hour extended salt spray, EMI shielding effectiveness -50dB @ 10 GHz specification min., 175°C
F	Designates electroless nickel plated aluminum, 48 hour salt spray, EMI shielding effectiveness -65dB @ 10 GHz 500 specification min., 200°C

These are standard finishes. Consult Amphenol Aerospace for variations.

5. Select an Insert Arrangement

MIL-DTL-38999, see insert identification chart on page 94.

6. Select a Contact Style

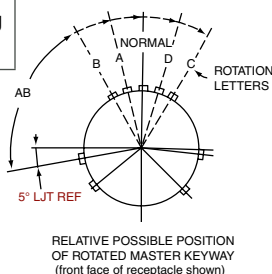
P	Designates Lanyard Release plug with pin contacts
S	Designates Lanyard Release plug with socket contacts

7. Alternate Keying Position

For alternate position of connector (to prevent cross-mating) see LJT key/keyway rotation below. (No letter is required for normal)

LJT Key/Keyway Rotation

AB ANGLE OF ROTATION (Degrees)					
Shell Size	Normal	A	B	C	D
9	95°	77°	-	-	113°
11	95°	81°	67°	123°	109°
13	95°	75°	63°	127°	115°
15	95°	74°	61°	129°	116°
17	95°	77°	65°	125°	113°
19	95°	77°	65°	125°	113°
21	95°	77°	65°	125°	113°
23	95°	80°	69°	121°	110°
25	95°	80°	69°	121°	110°



HOW TO ORDER - BY COMMERCIAL PART NUMBER FAIL SAFE 88-5388 OR 91-5388

1.	2.	3.	4.	5.
Finish	Connector Type Identification	Shell Size & Insert Arrangement	Lanyard Length Code	Contact Type Alternate Rotation of Insert
88	5388	29	40	P

1. Select a Finish

88	Designates corrosion resistant olive drab cadmium plate over nickel, 500 hour extended salt spray, EMI -50dB @ 10 GHz specification min., 175°C
91	Designates electroless nickel plated aluminum, optimum EMI shielding effectiveness -65dB @ 10 GHz specification min., 48 hour salt spray, 200°C

These are standard finishes. Consult Amphenol Aerospace, Sidney, NY for variations.

2. Connector Type Identification

5388	Designates MIL-DTL-38999, Series I LJT Lanyard Release Plug
-------------	---

3. Select a Shell Size and Insert Arrangement

Shell sizes are MIL-DTL-38999, Series III from sizes 11 thru 25. The basic part number selected specifies the insert arrangement. See Table I (page 94) for coded part number that correlates to insert arrangement.

4. Select a Lanyard Length Code

See Table II (page 94) for lanyard length code number.

5. Select a Contact Type/Alternate Rotation of Insert

P	Designates Lanyard Release plug with pin contacts
S	Designates Lanyard Release plug with socket contacts

When an alternate position of the connector is required to prevent cross-mating, a different letter (other than P or S) is used. See alternate positioning for LJT (to your left), then convert to Amphenol commercial coding by the following chart below.

Pin Contacts		Socket Contacts	
MS Letter	Amphenol Letter	MS Letter	Amphenol Letter
P	P (normal)	S	S (normal)
PA	E	SA	F
PB	R	SB	T
PC	W	SC	X
PD	Y	SD	Z

38999

III
HD
Dualok
II
I
SJT
Accessories
Aquacon
Herm/Seal
PCB

HIGH SPEED
Fiber Optics
Contacts
Connectors
Cables

EMI Filter
Transient

26482
Matrix 2

83723 III
Matrix | Pyle

26500
Pyle

5015
Crimp Rear Release Matrix

22992
Class I

Back-Shells

Options
Others

38999

Amphenol LJT Breakaway Fail Safe Connectors provide unequalled performance in environments requiring instant disengagement.

Designed to provide quick disconnect of a connector plug and receptacle with an axial pull on the lanyard, the "Breakaway" Fail Safe connector family offers a wide range of electrical and mechanical features:

- Instant decoupling and damage free separation
- Completely intermateable with standard LJT receptacles
- Inventory support commonality through the use of standard insert arrangements and contacts

Breakaway un-mating is initiated by applying a pull force to the lanyard which causes the operating sleeve on the plug to move away from the receptacle. Coupling segments on the plug then move away from the mating receptacle while expanding, thus releasing the receptacle. After completion of the un-mating sequence, spring compression returns the sleeve and segments to their original positions. Un-mating of the plug may also be accomplished by normal rotation of the coupling ring without affecting the breakaway capability.

The LJT Breakaway Fail Safe connector features which provide EMI EMP shielding in excess of MIL-DTL-38999 Series I requirements:

- Solid metal-to-metal coupling
- EMI grounding fingers
- Conductive finishes

Contact Amphenol Aerospace for more information on breakaway, quick-disconnect connectors. Other Amphenol cylindrical families (MIL-DTL-38999 Series III, MIL-DTL-26482, MIL-DTL-83723) also offer breakaway quick-disconnect connectors.

PART # Part number reference. To complete, see how to order pages 95.

Connector Type	Shell Style	Service Class	Shell Size & Insert Arrg	Contact Type	Alternate Position	Special Variations
88/91	5388	T	22-2	P	A	(XXX)

Military

MS Number	Service Class	Shell Size	Finish	Insert Arrg	Contact Style (P or S)	Alternate Position
MS27661	T	14	A	18	P	A

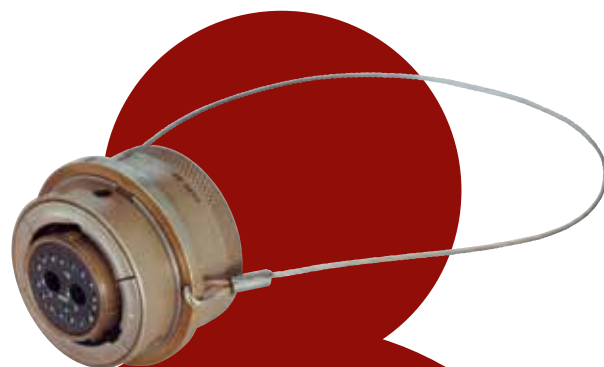
LJT Fail Safe 88-5388/91-5388 (MS27661)

Lanyard Release Plug

* To complete order number see page 95.

Shell Size	A Dia. Max.	B Max.	D Max. Accessory Dia.	L Max.	V Thread UNEF Class 2A (Plated)
11	1.393	1.797	.740	1.703	.5625-24
13	1.558	1.969	.926	1.703	.6875-24
15	1.669	2.078	1.051	1.703	.8125-20
17	1.797	2.203	1.176	1.703	.9375-20
19	1.926	2.323	1.300	1.703	1.0625-18
21	2.054	2.469	1.426	1.703	1.1875-18
23	2.183	2.594	1.551	1.703	1.3125-18
25	2.293	2.703	1.676	1.766	1.4375-18

All dimensions for reference only.



LJT Breakaway Fail Safe

In addition to standard Breakaway connectors, Amphenol also manufactures custom breakaway connectors including those with:

- Increased pull-force capability
- Custom lanyard lengths and backshells
- Low force separation capabilities
- Low insertion/separation force contacts
- Non-cadmium finishes
- Custom JT Series Breakaway designs have been developed for special applications; however the LJT Series is recommended over the JT Series for the quick-disconnect breakaway style.

