



DUALOK

Interconnect System



Size 9 Pair



Mated Dualok Interconnect System



OVERVIEW

Dualok is an enhanced anti-decoupling mechanism designed to perform under severe vibration environments – far exceeding the performance of MIL-DTL-38999 Series III plugs. The Dualok system is proven to mitigate the negative effects of high vibration operation by eliminating connector back-off and reducing conditions that can cause fretting corrosion. Dualok is compatible with all D38999 Series III receptacle interfaces and has been qualified to Boeing Specification BACC63EK.

SUPERIOR ELECTRICAL PERFORMANCE

Shell-to-shell Conductivity: The Dualok system eliminates back-off under shock and vibration which significantly improves electrical performance under lightning strike, Electro-magnetic pulse events, and overall EMI performance by minimizing the apertures between the plug and receptacle shell interfaces. Testing on D38999 Series III aluminum plugs with Dualok showed 75% less millivolt drop than mil-spec requirements.

Minimized Contact Fretting: The pin-socket interface remains tight under mated conditions. Dualok yields more consistent integrity across the contacts and reduces friction-induced oxides formation.

SIZE AND WEIGHT SAVINGS

Lightweight, Hybrid Composite/Metal Design: Connector weight savings by utilizing Dualok composite coupling nut with a Stainless Steel or Aluminum connector (D38999 Series).



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High Vibration Dualok, 38999 Series III Type

Commercial Plug (TV56, TVS56, CTV56, CTVS56)

1.	2.	3.	4.
Type & Class	Shell Size- Insert Arrg.	Contact Type	Alternate Position
TVS56RF-			

1. TYPE AND CLASS

See chart below, type, shell style and service class combined for easy choice.

ALUMINUM	COMPOSITE	STAINLESS STEEL
TVS56RF-	CTVS56RF-	TVS56RK-
TV56RW-	CTV56RW-	TVS56RKN-
TV56DT-	CTV56RGF-	TVS56RS-
TV56DZ-	CTV56RGW-	TVS56RL-
TV56RGF-		
TV56RGW-		
TVS56RB-		

ALUMINUM							
	Electroless Nickel	Olive Drab Cadmium	Durmalon	Black Zinc	Electroless Nickel (With Ground Plane)	Olive Drab Cadmium (With Ground Plane)	Marine Bronze
Temperature	200°C	175°C	175°C	175°C	200°C	175°C	200°C
Salt Spray	48 Hrs	500 Hrs	500 Hrs	500 Hrs	48 Hrs	500 Hrs	2,000 Hrs
EMI Shielding	-65dB @ 10GHz	-65dB @ 10GHz	-50dB @ 10GHz	-50dB @ 10GHz	-65dB @ 10GHz	-65dB @ 10GHz	-65dB @ 10GHz
RoHS	⊗		⊗	⊗	⊗		

DUALOK	TVS56RF-	TV56RW-	TV56DT-	TV56DZ-	TV56RGF-	TV56RGW-	TVS56RB-
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COMPOSITE				STAINLESS STEEL				
	Electroless Nickel	Olive Drab Cadmium	Electroless Nickel (With Ground Plane)	Olive Drab Cadmium (With Ground Plane)	Passivated (Firewall)	Passivated (Non-Firewall)	Nickel Plated (Firewall)	Nickel Plated (Non-Firewall)
Temperature	200°C	175°C	200°C	175°C	200°C	200°C	200°C	200°C
Salt Spray	2,000 Hrs	2,000 Hrs	2,000 Hrs	2,000 Hrs	500 Hrs	500 Hrs	500 Hrs	500 Hrs
EMI Shielding	-65dB @ 10GHz	-65dB @ 10GHz	-65dB @ 10GHz	-65dB @ 10GHz	-65dB @ 10GHz	-65dB @ 10GHz	-65dB @ 10GHz	-50dB @ 10GHz
RoHS	⊗		⊗		⊗	⊗	⊗	⊗

DUALOK	CTVS56RF-	CTV56RW-	CTV56RGF-	CTV56RGW-	TVS56RK-	TVS56RKN-	TVS56RS-	TVS56RL-
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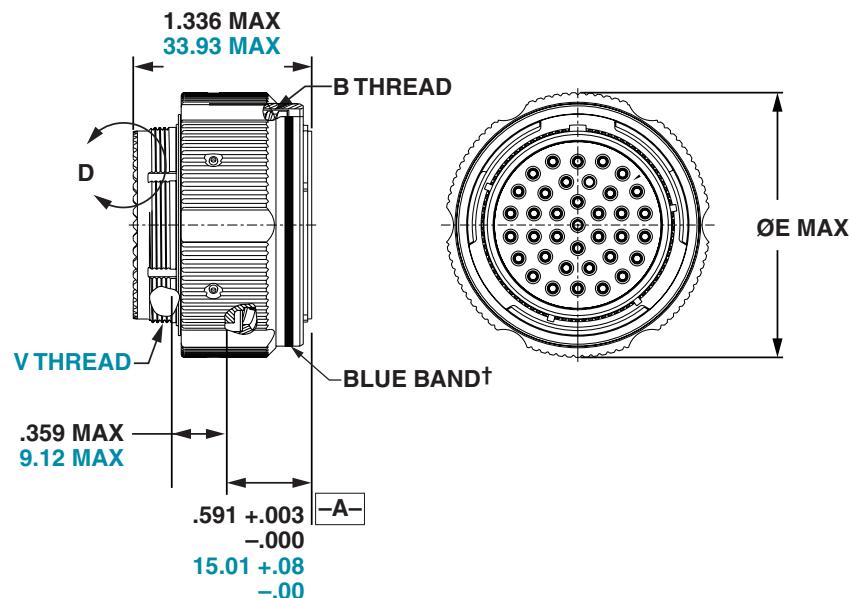
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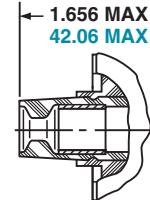
1. Type & Class	2. Shell Size- Insert Arrg.	3. Contact Type	4. Alternate Position
	9-35		

2. SHELL SIZE & INSERT ARRANGEMENT

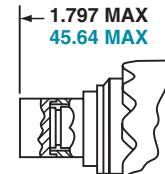
See chart below for Shell Size, Insert Arrangements are available on-line at www.amphenol-aerospace.com/pdf/catalogs/38999-insert-arrangements.pdf or in the MIL-DTL-38999 Catalog



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



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



Shell Size	B Thread 0.1-0.3L-TS-2B (Plated)	E Dia. Max.	Q Dia. Max. Metric	V Thread Metric.
9	.6250	.953	24.2	M12X1-6g
11	.7500	1.053	26.7	M15X1-6g
13	.8750	1.252	31.8	M18X1-6g
15	1.0000	1.365	34.6	M22X1-6g
19	1.2500	1.605	40.7	M28X1-6g
21	1.3750	1.735	44.0	M31X1-6g
25	1.6250	1.975	50.1	M37X1-6g

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1.	2.	3.	4.
Type & Class	Shell Size- Insert Arrg.	Contact Type	Alternate Position
		P	A

3. CONTACT TYPE

- P** 500 Cycle Pin Contacts, if require Less Contacts place (LC) at the end of part number
- S** 500 Cycle Socket Contacts, if require Less Contacts place (LC) at the end of part number
- H** Composite if you require 1500 Cycle Pin Contacts
- J** Composite if you require 1500 Cycle Socket Contacts
- X** Eyelet contacts, hermetic only

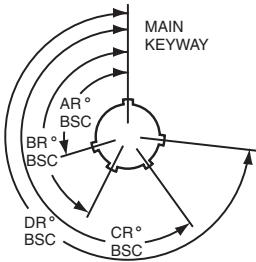
4. ALTERNATE KEYING

Shell Size	Key & Keyway 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
	E	91	131	197	240
11, 13, and 15	N*	95	141	208	236
	A	113	156	182	292
	B	90	145	195	252
	C	53	156	220	255
	D	119	146	176	298
	E	51	141	184	242
17 and 19	N*	80	142	196	293
	A	135	170	200	310
	B	49	169	200	244
	C	66	140	200	257
	D	62	145	180	280
	E	79	153	197	272
21, 23, and 25	N*	80	142	196	293
	A	135	170	200	310
	B	49	169	200	244
	C	66	140	200	257
	D	62	145	180	280
	E	79	153	197	272
25L, 33, and 37	N*	80	142	188	293
	A	135	170	188	310
	B	49	169	188	244
	C	66	140	188	257
	D	62	145	188	280
	E	79	153	188	272

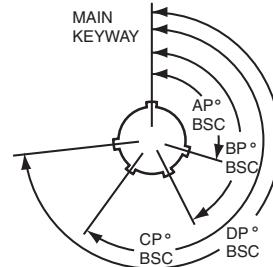
* An "N" designation is used on D38999 military part number but not on the commercial versions

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)



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