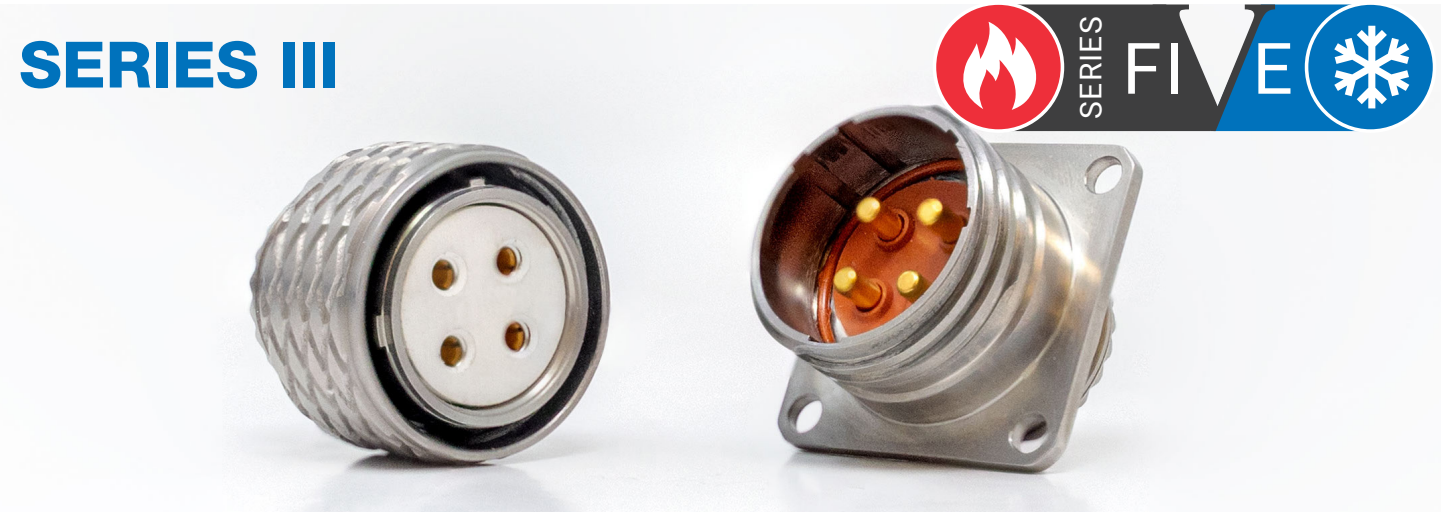
Amphenol Aerospace

HIGH TEMPERATURE SERIES FIVE & SERIES III

High-temperature connectors for the hottest environments on Earth and beyond

PDS - 357



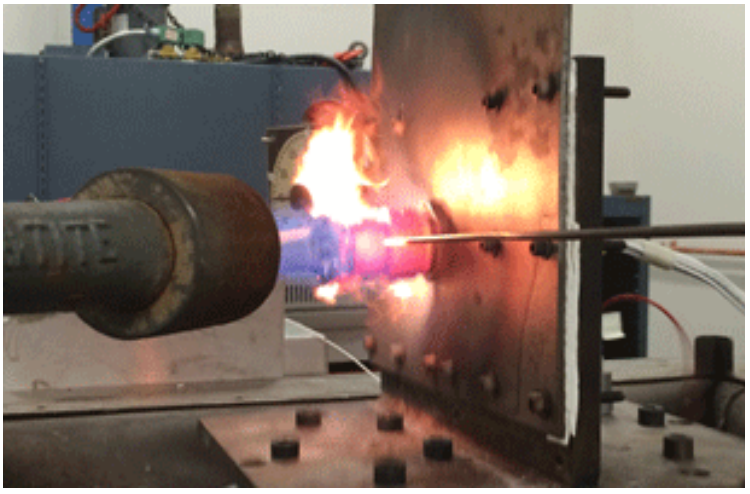
High Temperature Series Five and Series III connectors are the ideal solution for interconnects and electrical wire assemblies near engines, firewalls, and other high-heat sources. Built for applications with higher temperatures, such as hypersonic weapon systems, small module nuclear reactors, space launch vehicles, and other advanced aircraft, these high-heat connectors are built to operate at temperatures up to 572°F (300°C) for longer durations, with continuous duty at 500°F (260°C) assured. Using proven high-heat materials such as alumina ceramic inserts, high-temperature elastomeric seals, and much more, Amphenol High Temperature connectors can beat the heat.

The heat-resistant High Temperature Series connectors outperform standard mil-spec D38999 connectors under similar high-heat circumstances. Temper-Grip socket contacts come standard to ensure a ruggedized connection even during firewall testing at more than 2,000°F (1,093°C). Customized testing, including firewall testing under vibration, can be performed at Amphenol's advanced test lab in Sidney, NY. For applications up to 500°F (260°C), Amphenol's glass-filled rigid silicone is a proven insulator alternative to the alumina ceramic inserts with the same upgrades as the rest of the High Temperature Series.

As today's advanced propulsion systems achieve higher and higher speeds, the demand for connectors that can sustain high-heat environments has never been greater. Amphenol High Temperature connectors are the ultimate solution for high-heat applications that demand durability, reliability, and resistance to extreme heat.

FEATURES AND BENEFITS:

- Withstands exposure at 572 °F (300 °C) for up to 24 hours, 500 °F (260 °C) continuous duty
- Utilizes Temper-Grip socket contacts
- Nickel contacts available with thick gold plating
- One-piece alumina ceramic inserts and high-temperature elastomer seals
- Exceeds firewall performance of MIL-DTL-39999 connectors, up to 45 minutes and up to 2,200 °F (1,204 °C)
- Available in stainless steel and titanium shells
- Series Five are 20% smaller and up to 50% lighter than comparable D38999 connectors
- Improved resistance to cryogenic environments



Product Manager — David Salt • Office: +1 (607) 563-5161 • Email: dsalt@amphenol-aao.com
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HOW TO ORDER: HIGH TEMPERATURE CONNECTORS

S506HK-14-4PN

Amphenol Aerospace

1. Connector Type	2. Shell Style	3. Service Class	4. Shell Size - Insert Arrg.	5. Contact Type	6. Alternate Positions
S5	06	HK-	14-4	P	N

1. Connector Type

S5	Series Five
HTV	Series III**

2. Shell Style*

*Other shell styles available consult Amphenol for more information

06	Straight Plug pg 16
00	Wall Mount Receptacle pg 18
01	Line Mounting Receptacle pg 28

3. 260ºC Service Class

*HK-	Passivated Stainless Steel
*HT-	Titanium
HS-	Passivated stainless steel with glass-filled silicone-rigid insert - 500°F (260°C)
HU-	Titanium with glass-filled silicone rigid insert - 500°F (260°C)

4. Shell Size/ Insert Arrangement

See next page

5. Contact Type

P	Pin (Recommended for receptacles)
S	TemperGrip Socket (Recommended for plugs)

6. Alternate Positions

N	Normal Rotation
A	A Rotation
B	B Rotation
C	C Rotation
D	D Rotation
E	E Rotation

See pages 15 for more information

*Currently in pre-production as of February 2024, all quotes will be issued with an “XP” prefix under an internal part number indicating that parts are built in our experimental production department. Some components may be strategically sourced by engineering, contact the factory for more details and updates on full production release!

**Please see Series III catalog for 2D drawings and available shell styles.

Product Manager — David Salt • Office: +1 (607) 563-5161 • Email: dsalt@amphenol-aao.com
amphenol-aerospace.com • amphenolmao.com

HIGH TEMPERATURE CONNECTORS
Alternate Positions

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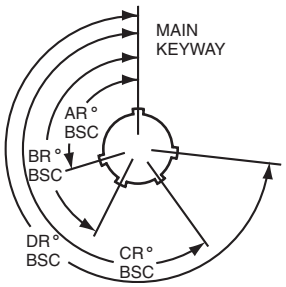
KEY/KEYWAY POSITION

Key/Keyway Position					
N	A	B	C	D	E

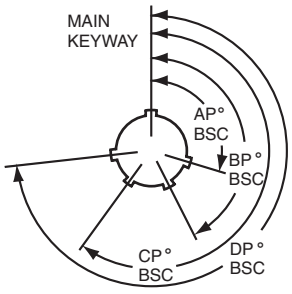
KEY/KEYWAY POSITION

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)



Shell Size	Key & Keyway Arrangement Identification Letter	AR° or AP° BSC	BR° or BP° BSC	CR° or CP° BSC	DR° or DP° BSC
8 | 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
10 | 11 12 | 13 14 | 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 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 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

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HIGH TEMPERATURE CONNECTORS

Insert Availability and Identification Chart

Amphenol Aerospace

SERIES FIVE INSERT (S5)

Series Five	Total Contacts	Service Rating	Contact Size		
			20	16	12
8-98	3	I	3		
10-2	2	I		2	
10-4	4	I	4		
10-5	5	I	5		
10-98	6	I	6		
10-99	7	I	7		
12-3	3	II		3	
12-4	4	I		4	
12-8	8	I	8		
12-98	10	I	10		
14-4	4	I			4
14-5	5	II		5	
14-15	15	I	14	1	
14-18	18	I	18		
14-19	19	I	19		
14-68	8	I		8	
14-97	12	I	8	4	

Product Manager — David Salt • Office: +1 (607) 563-5161 • Email: dsalt@amphenol-aao.com
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HIGH TEMPERATURE CONNECTORS

Insert Availability and Identification Chart

Amphenol Aerospace

SERIES III INSERT (TV)

Series III	Total Contacts	Service Rating	Contact Size			
			20	16	12	8
9-98	2	M	3			
9-98	3	I	3			
11-2	2	I		2		
11-4	4	I	4			
11-5	5	I	5			
11-98	6	I	6			
11-99	7	II	7			
13-4	4	I		4		
13-8	8	I	8			
13-98	10	I	10			
15-4	4	I			4	
15-5	5	II		5		
15-15	15	I	14	1		
15-18	18	I	18			
15-19	19	I	19			
15-97	12	I	8	4		
17-6	6	I			6	
17-8	8	II		8		
17-26	26	I	26			
17-52	2	M				2
17-99	23	I	21	2		
19-11	11	II		11		
19-28	28	M	26	2		
19-32	32	I	32			
21-11	11	I			11	
21-16	16	II		16		
21-29	27	I	19	4	4	
21-39	39	I	37	2		
21-41	41	I	41			

Series III	Total Contacts	Service Rating	Contact Size			
			20	16	12	8
21-A48	4	N				4
23-6	6	M				6
23-14	14	I			14	
23-21	21	II		21		
23-53	53	I	53			
23-55	55	I	55			
25-4	56	I	48	8		
25-8	8	M				8
25-19	19	I			19	
25-20	30	N	10	13	4	3
25-24	24	I		12	12	
25-26	25	I	16		5	4
25-29	29	I	29			
25-37	37	I		37		
25-43	43	I	23	20		
25-46	46	I	40	4		2
25-61	61	I	61			
25-90	46	I	40	4		2

Product Manager — David Salt • Office: +1 (607) 563-5161 • Email: dsalt@amphenol-aao.com
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HIGH TEMPERATURE SERIES FIVE (S5)

Insert Arrangements

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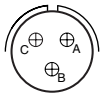
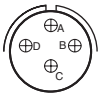
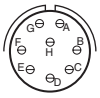
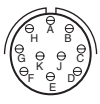
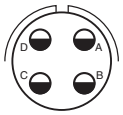
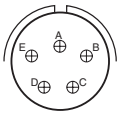
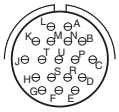
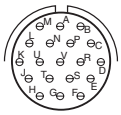
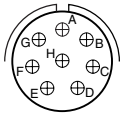
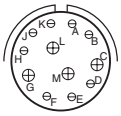
Front face of pin inserts illustrated

Shell Size & Insert Arrg. for:									
Series Five	8-98	10-2	10-4	10-5	10-98	10-99	12-3	12-4	12-8
Service Rating	I	I	I	I	I	I	II	I	I
Number of Contacts	3	2	4	5	6	7	3	4	8
Contact Size	20	16	20	20	20	20	16	16	20

Shell Size & Insert Arrg. for:								
Series Five	12-98	14-4	14-5	14-15	14-18	14-19	14-68	14-97
Service Rating	I	I	II	I	I	I	I	I
Number of Contacts	10	4	5	14 | 1	18	19	8	8 | 4
Contact Size	20	12	16	20 | 16	20	20	16	20 | 16

*Note: Contact Amphenol factory for availability

CONTACT LEGEND	12	16	20

Product Manager — David Salt • Office: +1 (607) 563-5161 • Email: dsalt@amphenol-aao.com
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HIGH TEMPERATURE SERIES III (TV)

Insert Arrangements

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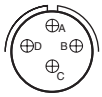
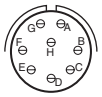
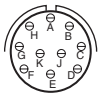
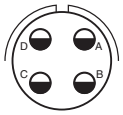
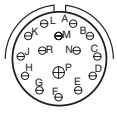
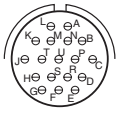
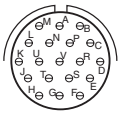
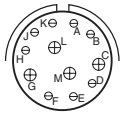
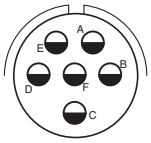
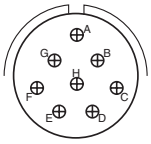
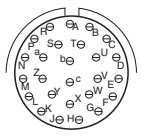
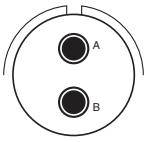
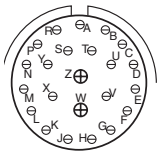
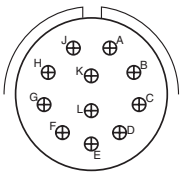
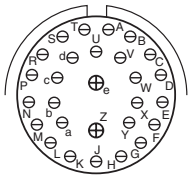
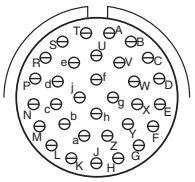
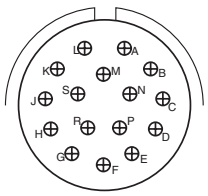
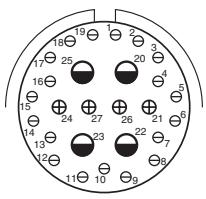
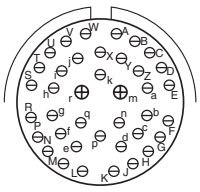
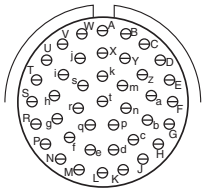
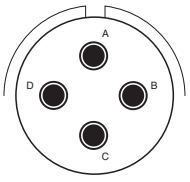
Front face of pin inserts illustrated

Shell Size & Insert Arrg. for:										
Series III TV	**9-94**	**9-98**	**11-2**	**11-4**	**11-5**	**11-98**	**11-99**	**13-4**	**13-8**	**13-98**
Service Rating	M	I	I	I	I	I	I	I	I	I
Number of Contacts	2	3	2	4	5	6	7	4	8	10
Contact Size	20	20	16	20	20	20	20	16	20	20

Shell Size & Insert Arrg. for:							
Series III TV	**15-4**	**15-15**	**15-18**	**15-19**	**15-97**	**17-6**	**17-8**
Service Rating	I	I	I	I	I	I	II
Number of Contacts	4	14 / 1	18	19	8 / 4	6	8
Contact Size	12	20 / 16	20	20	20 / 16	12	16

Shell Size & Insert Arrg. for:						
Series III TV	**17-26**	**17-52**	**17-99**	**19-11**	**19-28**	**19-32**
Service Rating	I	M	I	II	M	1
Number of Contacts	26	2	21 / 2	11	26 / 2	32
Contact Size	20	8	20 / 16	16	20 / 16	20

Shell Size & Insert Arrg. for:					
Series III TV	**21-16**	**21-29**	**21-39**	**21-41**	**21-48**
Service Rating	II	I	1	I	N
Number of Contacts	16	19 / 4 / 4	37 / 2	41	4
Contact Size	16	20 / 16 / 12	20 / 16	20	8 power

*Note: Contact Amphenol factory for availability

CONTACT LEGEND 8 10 12 16 20

Product Manager — David Salt • Office: +1 (607) 563-5161 • Email: dsalt@amphenol-aao.com
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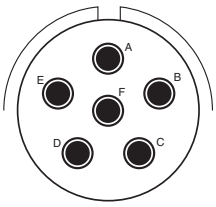
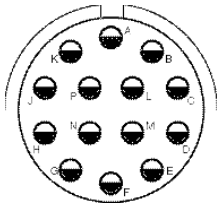
HIGH TEMPERATURE SERIES III (TV)

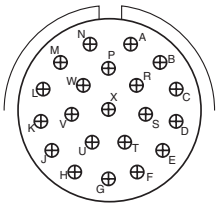
Insert Arrangements

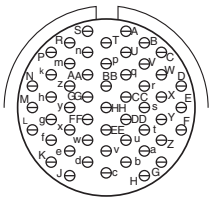
Amphenol Aerospace

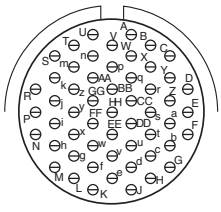
Front face of pin inserts illustrated



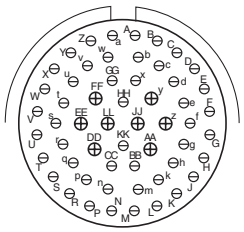


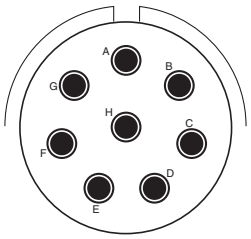


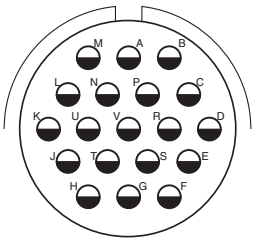


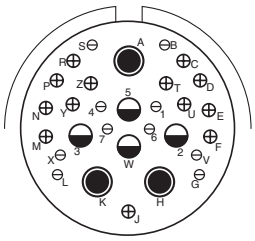


Shell Size & Insert Arrg. for:	23-6	23-14	23-21	23-53	23-55
Series III TV					
Service Rating	M	I	II	I	I
Number of Contacts	6	14	21	53	55
Contact Size	8 Twinax	12	16	20	20

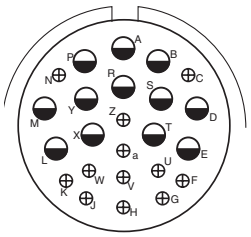


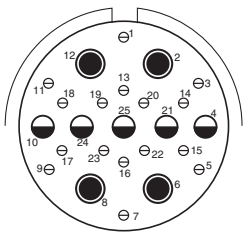


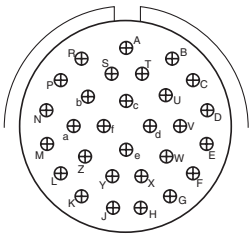


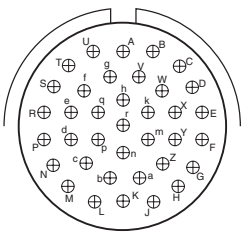


Shell Size & Insert Arrg. for:	25-4		25-8	25-19	*** 25-20			
Series III TV								
Service Rating	I		Twinax / Coax	I	N			
Number of Contacts	48	8	8	19	10	13	3	4
Contact Size	20	16	8	12	20	16	8	12 Coax
					(With Matched Impedance)			

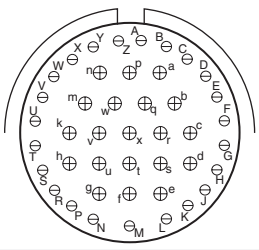


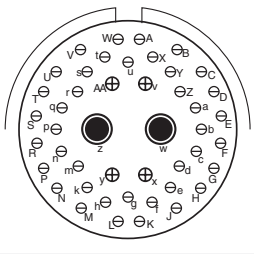


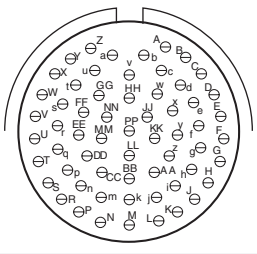


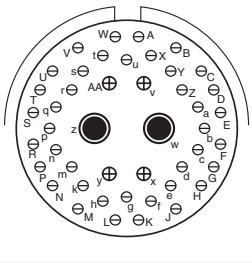


Shell Size & Insert Arrg. for:	25-24		25-26			25-29	25-37
Series III TV							
Service Rating	I		I			I	I
Number of Contacts	12	12	16	5	4	29	37
Contact Size	16	12	20	12	8 Coax	16	16









Shell Size & Insert Arrg. for:	25-43		25-46			25-61	25-90		
Series III TV									
Service Rating	I		I			I	I		
Number of Contacts	23	20	40	4	2	61	40	4	2
Contact Size	20	16	20	16	8 Coax †	20	20	16	8

Product Manager — David Salt • Office: +1 (607) 563-5161 • Email: dsalt@amphenol-aao.com
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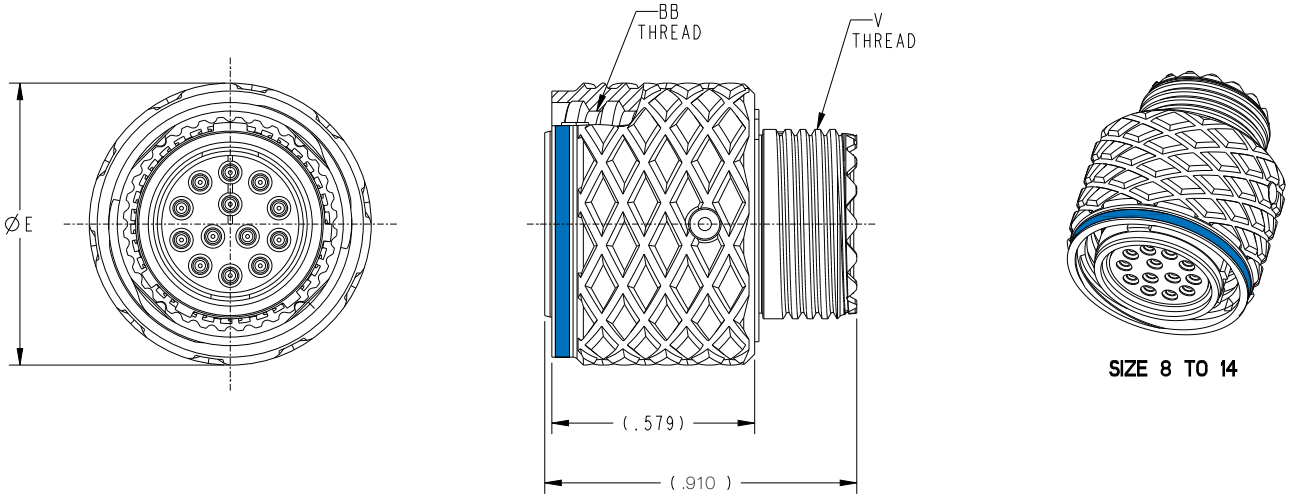
HIGH TEMPERATURE SERIES FIVE PLUG WITH ACCESSORY THREADS

S506



Shell Size	BB Thread	V Thread*	ØE ±.005
8	.5600 - .1P - .2L - DS	.4375 - 28 - UNEF	.682
10	.6800 - .1P - .2L - DS	.5625 - 24 - UNEF	.803
12	.8000 - .1P- .2L - DS	.6875 - 24 - UNEF	.923
14	.9200 - .1P - .2L - DS	.8125 - 20 - UNEF	1.043

*Compatible with all D38999 Series II Accessories

Product Manager — David Salt • Office: +1 (607) 563-5161 • Email: dsalt@amphenol-aao.com
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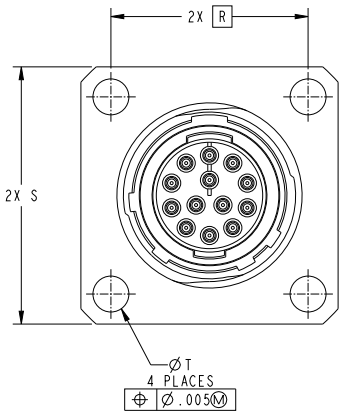
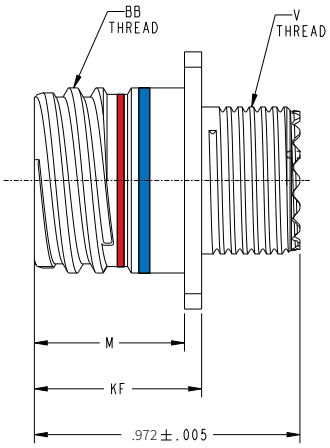
HIGH TEMPERATURE SERIES FIVE WALL MOUNTING RECEPTACLE

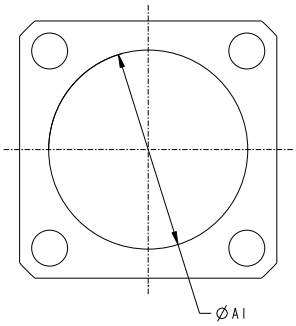
S500

Amphenol Aerospace

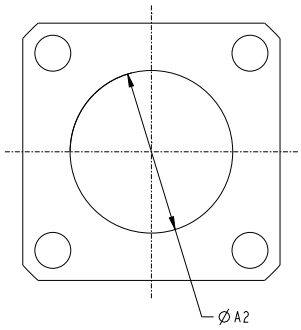




PANEL HOLE DIMENSIONS



BACK PANEL MOUNTING



FRONT PANEL MOUNTING

Shell Size	BB Thread	V Thread*	(ØA1)	(ØA2)	M ±.003	R	S ±.012	ØT ±.008	KF ±.003
8	.5600 - .1P - .2L - DS	.4375 - 28 - UNEF	.606	.468	.5475	.594	.815	.128	.613
10	.6800 - .1P - .2L - DS	.5625 - 24 - UNEF	.726	.593	.5475	.719	.941	.128	.613
12	.8000 - .1P - .2L - DS	.6875 - 24 - UNEF	.846	.718	.5475	.812	1.034	.128	.613
14	.9200 - .1P - .2L - DS	.8125 - 20 - UNEF	.966	.843	.5475	.906	1.128	.128	.613

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Product Manager — David Salt • Office: +1 (607) 563-5161 • Email: dsalt@amphenol-aao.com
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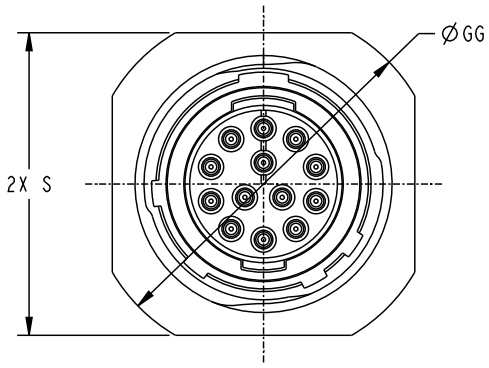
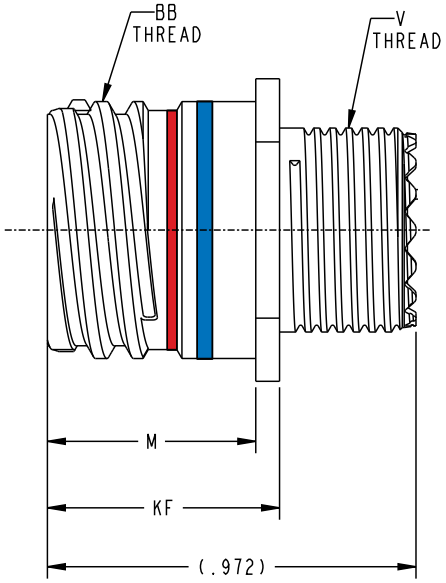
HIGH TEMPERATURE SERIES FIVE LINE MOUNTING RECEPTACLE

S501

Amphenol Aerospace





Shell Size	BB Thread	V Thread*	M ±.003	S ±.012	ØGG ±.010	KF ±.003
8	.5600 - .1P - .2L - DS	.4375 - 28 - UNEF	.5475	.678	.803	.613
10	.6800 - .1P - .2L - DS	.5625 - 24 - UNEF	.5475	.798	.923	.613
12	.8000 - .1P - .2L - DS	.6875 - 24 - UNEF	.5475	.918	1.043	.613
14	.9200 - .1P - .2L - DS	.8125 - 20 - UNEF	.5475	1.038	1.163	.613

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