

SuperNine® Glass seal hermetic

MIL-DTL-38999 Series III Type

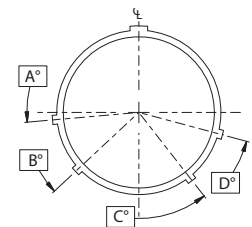
2333-2015-H7 Hermetic Bulkhead Feedthrough



Part Number Development					
Sample Part Number	2333-2015	-H7	Z1	25-8	N
Series - Basic P/N	Hermetic Bulkhead Feedthrough				
Shell Style	H7 = Jam Nut Mount				
Finish	Z1 = Passivate ZL = Nickel Plate				
Shell Size-Insert Arrangement	Per MIL-DTL-38999/MIL-STD-1560				
Polarization	Per Master Key table for Jam-Nut Side Per Minor Keyway table for Opposite Side				

MIL-DTL-38999 Series III Type SuperNine Hermetic ThermoRex cryogenic connectors withstand low temperatures and pressure differentials between internal and external environments without compromising their integrity. Hermetic sealing of 1×10^{-7} atm cc/s ensures protection against moisture and contaminants, making them ideal for space vehicles and high-altitude aircraft zones. Intended for use in sub-zero applications to ensure optimal performance in critical applications. Rated for temperatures from -65°C to $+200^{\circ}\text{C}$, they meet stringent military specifications, providing exceptional resistance to shock (up to 100g), vibration (up to 20g).

Polarization Table															
Shell Sizes: 9					Shell Sizes: 11, 13, 15					Shell Sizes: 17, 19, 21, 23, 25					
Pos	A°	B°	C°	D°	Pos	A°	B°	C°	D°	Pos	A°	B°	C°	D°	
N	105	140	215	265	N	95	141	208	236	N	80	142	196	293	
A	102	132	248	320	A	113	156	182	292	A	135	170	200	310	
B	80	118	230	312	B	90	145	195	252	B	49	169	200	244	
C	35	140	205	275	C	53	156	220	255	C	66	140	200	257	
D	64	155	234	304	D	119	146	176	298	D	62	145	180	280	
E	91	131	197	240	E	51	141	184	242	E	79	153	197	272	



FACE VIEW - RECEPTACLE

Minor Keyway Positions				
Keyway Code	A°	B°	C°	D°
T*	95	135	220	275
V	92	127	253	325
W	70	113	235	322
X	35	135	210	285
Y	54	150	239	314
Z	81	126	202	250

* Designates normal position

PERFORMANCE SPECIFICATIONS

- Hermeticity: $<1 \times 10^{-7}$ ccHe/sec @ Delta 1 atmosphere
- Impedance: 50 ohms nom
- Freq range: DC - 6 Ghz
- VSWR: 1.50:1 Max
- Insertion loss: $(.15 \times \sqrt{\text{F}})$; F is frequency in Ghz
- Dielectric withstanding voltage: 500 VAC RMS 60 Hz for 1 second minimum at sea level
- Insulation resistance: greater than 5,000 megohms
- Operating temperature: -65°C to 200°C

MATERIAL/FINISH:

- Shell and jam-nut - CRES / per P/N development
- Pin contact - kovar / gold plated
- Outer contact - alloy 52 / gold plated
- Insulator, hermetic - fused vitreous glass
- Insulator, pin - high grade rigid dielectric
- Seals - fluorosilicone
- O-ring - viton

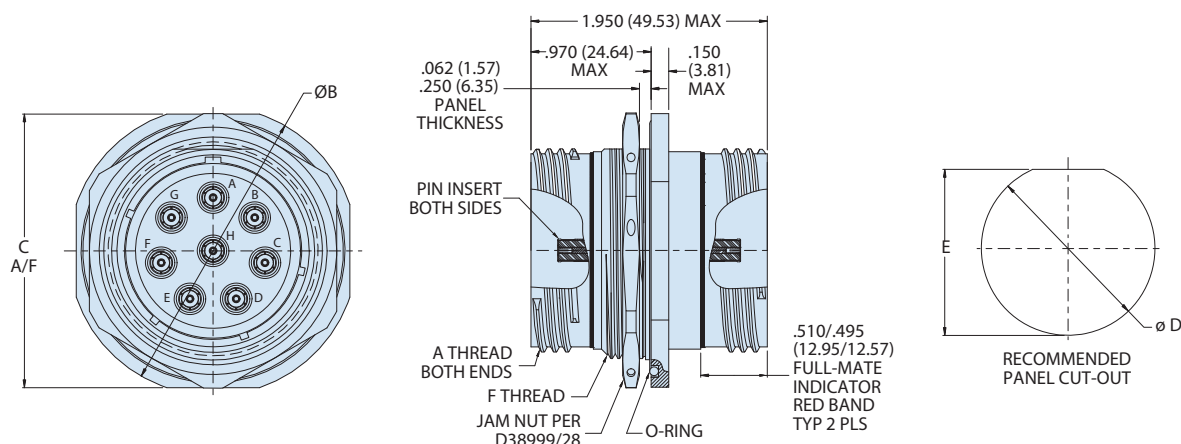
Table I: Insert Arrangements					
Shell Size	Layout	No. of Pins			
		22D	20	16	12
8	-35	6			
8	-98		3		
10	-5		5		
10	-98		6		
10	-99		7		
10	-35	13			
10	-2			2	
12	-4			4	
12	-8		8		
12	-98		10		
12	-35	22			
14	-5			5	
14	-15		14	1	
14	-18		18		
14	-19		19		
14	-35	37			
14	-97		8	4	
16	-6				6

Table I: Insert Arrangements					
Shell Size	Layout	No. of Pins			
		22D	20	16	12
16	-8			8	
16	-26		26		
16	-35	55			
16	-99		21	2	
18	-11			11	
18	-28		26	2	
18	-30		29	1	
18	-32		32		
18	-35	66			
18	-45	67			
20	-11				11
20	-16			16	
20	-24		24		
20	-25		25		
20	-27		27		
20	-29		19	4	4
20	-35	79			
20	-39		37	2	

Table I: Insert Arrangements					
Shell Size	Layout	No. of Pins			
		22D	20	16	12
20	-41		41		
22	-21			21	
22	-32		32		
22	-34		34		
22	-35	100			
22	-36		36		
22	-53		53		
22	-55		55		
22	-97			16	
22	-99			11	
24	-4		48	8	
24	-19				19
24	-24			12	12
24	-29			29	
24	-35	128			
24	-43		23	20	
24	-61		61		

MIL-DTL-38999 Series III Type

2333-2015-H7 Hermetic Bulkhead Feedthrough



Dimensions						
Shell Size	A Thread .1P-.3L-TS-2A	ø B	C	ø D	E Dim	F Thread Metric
11	.7500 (19.05)	1.375 (34.92)	1.252 (31.80)	.835/.825 (21.21/ 20.96)	.771/.761 (19.58/ 19.33)	M20 X 1.0-6g
17	1.1875 (30.16)	1.752 (44.50)	1.626 (41.30)	1.270/1.260 (32.26/ 32.00)	1.210/1.200 (30.73/ 30.48)	M32 X 1.0-6g
19	1.2500 (31.75)	1.937 (49.20)	1.811 (46.00)	1.395/1.385 (35.43/ 35.18)	1.335/1.325 (33.91/ 33.66)	M35 X 1.0-6g
21	1.3750 (34.92)	2.063 (52.40)	1.937 (49.20)	1.520/1.510 (38.61/ 38.35)	1.460/1.450 (37.08/ 36.83)	M38 X 1.0-6g
23	1.5000 (38.10)	2.189 (55.60)	2.063 (52.40)	1.645/1.635 (41.78/ 41.53)	1.585/1.575 (40.26/ 40.01)	M41 X 1.0-6g
25	1.6250 (41.28)	2.311 (58.70)	2.189 (55.60)	1.770/1.760 (44.96/ 44.70)	1.710/1.700 (43.43/ 43.18)	M44 X 1.0-6g

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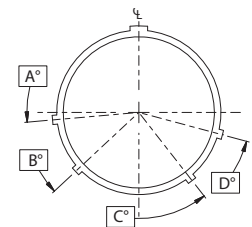
2333-2015-DH7 Hermetic Bulkhead Feedthrough



Part Number Development					
Sample Part Number	2333-2015	-DH7	Z1	25-8	N
Series - Basic P/N	Hermetic Bulkhead Feedthrough				
Shell Style	DH7 = Jam Nut Mount Dual O-Ring				
Finish	Z1 = Passivate ZL = Nickel Plate				
Shell Size-Insert Arrangement	Per MIL-DTL-38999/MIL-STD-1560				
Polarization	Per Master Key table for Jam-Nut Side Per Minor Keyway table for Opposite Side				

MIL-DTL-38999 Series III Type SuperNine HermeticThermaRex cryogenic connectors withstand low temperatures and pressure differentials between internal and external environments without compromising their integrity. Hermetic sealing of 1×10^{-7} atm cc/s ensures protection against moisture and contaminants, making them ideal for space vehicles and high-altitude aircraft zones. Intended for use in sub-zero applications to ensure optimal performance in critical applications. Rated for temperatures from -65°C to $+200^{\circ}\text{C}$, they meet stringent military specifications, providing exceptional resistance to shock (up to 100g), vibration (up to 20g).

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- Insulator, pin - high grade rigid dielectric
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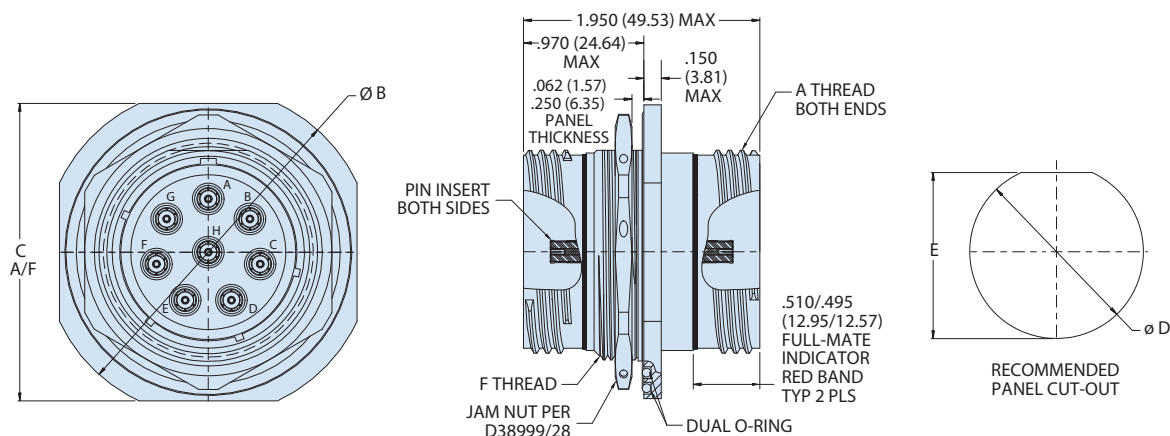
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THERMARX HERMETIC CONNECTORS