

SuperNine® Lightweight Hermetic



MIL-DTL-38999 Series III Type

233-250 Wall mount or jam-nut receptacle, PC tails or solder cup

CODE RED LIGHT WEIGHT HERMETIC CONNECTORS

MIL-DTL-38999 Series III Type SuperNine Lightweight Code Red Hermetic connectors withstand 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. Innovative encapsulant allows for use of light weight aluminum shells with higher carrying capacity gold-plated copper contacts. Ideally suited for aerospace applications. Connectors meet stringent military specifications, providing exceptional resistance to shock (up to 100g), vibration (up to 20g).

PERFORMANCE SPECIFICATIONS

- Hermeticity: $< 1 \times 10^{-7}$ sccHe/sec @ one ATM differential. Not for use in liquid atmosphere.
- I.R.: 5 gigaohms min @ 500 VDC
- See D.W.V. Voltage Rating Table
- Operating temperature: -65° C up to 200° C

MATERIAL/FINISH:

- Shell and jam-nuts: see Material/Finish in Part Number Development
- Insulators: high grade rigid dielectric
- O-ring and Seals: fluorosilicone / N.A.
- Contacts: copper alloy/gold plated
- Sealing compound: polymer encapsulant

NOTES

1. Glenair lightweight hermetic connectors are designed to mate with any QPL manufacturer's MIL-DTL-38999, Series III mating plug having the same shell size, insert arrangement, opposite contact gender and polarization.
2. Connectors meet all applicable dimensions, mechanical, electrical, environmental and sealing requirements of MIL-DTL-38999/23.
3. Front panel mount only
4. Flycuts (wrench flats) are an optional design

DWV Voltage Levels	
Service Rating	Voltage AC RMS 60Hz
M	1300 VAC
I	1800 VAC
II	2300 VAC
N	1000 VAC

Part Number Development							
Sample Part Number		-00	ME	17	-35	P	N
Series - Basic P/N	Series 23 CODE RED hermetic receptacle						
Connector Style	-00 = Wall mount with slotted holes -D0 = Wall mount with round holes -TO = Wall mount with tapped holes Omit = Jam nut mount						
Material/Finish	AB = Marine Bronze, None (Clean Only), -65°C to +200°C MA = Electroless Nickel, Matte Finish, -65°C to +200°C ME = Aluminum Alloy, Electroless Nickel, -65°C to +200°C MT = Nickel, PTFE (Teflon) -65°C to -175°C NF = Aluminum Alloy, Cad/O.D. Over Electroless Nickel, -65°C to +175°C ZR = Aluminum Alloy, Zinc Ni, Black (Tri-Valent CR), -65°C to +175°C ZN = Aluminum Alloy, Zinc Ni, Olive Drab, -65°C to +175°C						
Shell Size*	Per MIL-DTL-38999 Series III						
Insert Arrangement*	Per MIL-STD-1560						
Contact Style	C = Pin, PC tail P = Pin, solder cup		D = Socket, PC tail S = Socket, solder cup				
Alternate Polarization	A, B, C, D, E, N = Normal; see section A for key position details						

*Refer to Section A for complete details, consult factory for additional options
Modification codes may be added directly to the end of any valid part number

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

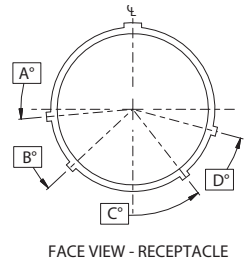


Table I: Insert Arrangements

Shell Size	Layout	No. of Pins			
		22D	20	16	12
9	-35	6			
9	-98		3		
11	-2			2	
11	-4		4		
11	-5		5		
11	-35	13			
11	-98		6		
11	-99		7		
13	-4			4	
13	-8		8		
13	-35	22			
13	-98		10		
15	-5			5	
15	-15		14	1	
15	-18		18		
15	-19		19		
15	-35	37			
15	-97		8	4	

Table I: Insert Arrangements

Shell Size	Layout	No. of Pins			
		22D	20	16	12
17	-6				6
17	-8			8	
17	-26		26		
17	-35	55			
17	-99		21	2	
19	-11			11	
19	-28		26	2	
19	-30		29	1	
19	-32		32		
19	-35	66			
19	-45	67			
21	-11				11
21	-16			16	
21	-24		24		
21	-25		25		
21	-27		27		
21	-35	79			
21	-39		37	2	

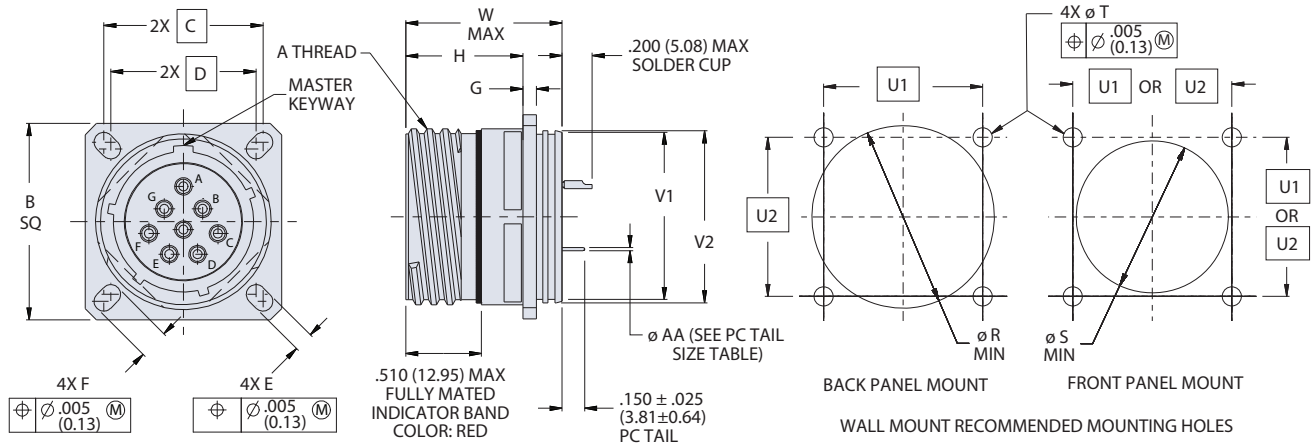
Table I: Insert Arrangements

Shell Size	Layout	No. of Pins			
		22D	20	16	12
21	-41		41		
23	-21			21	
23	-32		32		
23	-34		34		
23	-35	100			
23	-36		36		
23	-53		53		
23	-55		55		
23	-97			16	
23	-99			11	
25	-4		48	8	
25	-19				19
25	-24			12	12
25	-29			29	
25	-35	128			
25	-43		23	20	
25	-61		61		

MIL-DTL-38999 Series III Type

233-250 Wall mount or jam-nut receptacle, PC tails or solder cup

233-250-00 WALL MOUNT RECEPTACLE WITH SLOTTED HOLES



Recommended Mounting Holes for Wall and Box Mount Receptacles						
Shell Size Code	Shell Size	ø R Min	ø S Min	ø T Holes	U1 BSC	U2 BSC
A	09	0.656 (16.66)	0.516 (13.11)	0.133 (3.38) 0.123 (3.12)	0.719 (18.26)	0.594 (15.09)
B	11	0.796 (20.22)	0.625 (15.88)		0.812 (20.62)	0.719 (18.26)
C	13	0.922 (23.42)	0.750 (19.05)		0.906 (23.01)	0.812 (20.62)
D	15	1.047 (26.59)	0.906 (23.01)		0.969 (24.61)	0.906 (23.01)
E	17	1.219 (30.96)	1.016 (25.81)		1.062 (26.97)	0.969 (24.61)
F	19	1.297 (32.94)	1.141 (28.98)		1.156 (29.36)	1.062 (26.97)
G	21	1.422 (36.12)	1.266 (32.16)		1.250 (31.75)	1.156 (29.36)
H	23	1.547 (39.29)	1.375 (34.92)	0.159 (4.04) 0.149 (3.78)	1.375 (34.92)	1.250 (31.75)
J	25	1.672 (42.47)	1.484 (37.69)	0.155 (3.94) 0.145 (3.68)	1.500 (38.10)	1.375 (34.92)

PC Tail Size	
Contact Size	øAA
22D	.020 (0.51)
	.018 (0.46)
20	.030 (0.76)
	.028 (0.71)
16	.040 (1.02)
	.038 (0.97)
12	.072 (1.83)
	.070 (1.78)

Dimensions											
Shell Size	A Thread	B SQ	C BSC	D BSC	E	F	G	H	øV1 ±.012	øV2 ±.012 -.000	W Max
09	.6250-1P-.3L-TS-2A	0.949 (24.10) 0.925 (23.50)	0.719 (18.26)	0.594 (15.09)	0.136 (3.45) 0.120 (3.05)	0.224 (5.69) 0.208 (5.28)	0.098 (2.49) 0.083 (2.11)	0.820 (20.83) 0.771 (19.58)	0.602 (15.29)	0.642 (16.31)	1.280 (32.51)
11	.7500-1P-.3L-TS-2A	1.043 (26.49) 1.019 (25.88)	.812 (20.62)	0.719 (18.26)		0.202 (5.13) 0.186 (4.72)			0.850 (21.59)	0.894 (22.71)	
13	.8750-1P-.3L-TS-2A	1.138 (28.91) 1.114 (28.30)	.906 (23.01)	0.812 (20.62)		0.181 (4.60) 0.165 (4.19)			0.976 (24.79)	1.020 (25.91)	
15	1.0000-1P-.3L-TS-2A	1.232 (31.29) 1.208 (30.68)	.969 (24.61)	0.906 (23.01)		0.202 (5.13) 0.186 (4.72)			1.102 (27.99)	1.142 (29.01)	
17	1.1875-1P-.3L-TS-2A	1.323 (33.60) 1.299 (32.99)	1.062 (26.97)	0.969 (24.61)					1.228 (31.19)	1.268 (32.21)	
19	1.2500-1P-.3L-TS-2A	1.449 (36.80) 1.425 (36.20)	1.156 (29.36)	1.062 (26.97)					1.350 (34.29)	1.394 (35.41)	
21	1.3750-1P-.3L-TS-2A	1.575 (40.00) 1.551 (39.40)	1.250 (31.75)	1.156 (29.36)		0.126 (3.20) 0.083 (2.11)			1.476 (37.49)	1.520 (38.61)	
23	1.5000-1P-.3L-TS-2A	1.701 (43.21) 1.677 (42.60)	1.375 (34.92)	1.250 (31.75)	1.602 (40.69)		1.642 (41.71)				
25	1.6250-1P-.3L-TS-2A	1.823 (46.30) 1.799 (45.69)	1.500 (38.10)	1.375 (34.92)							

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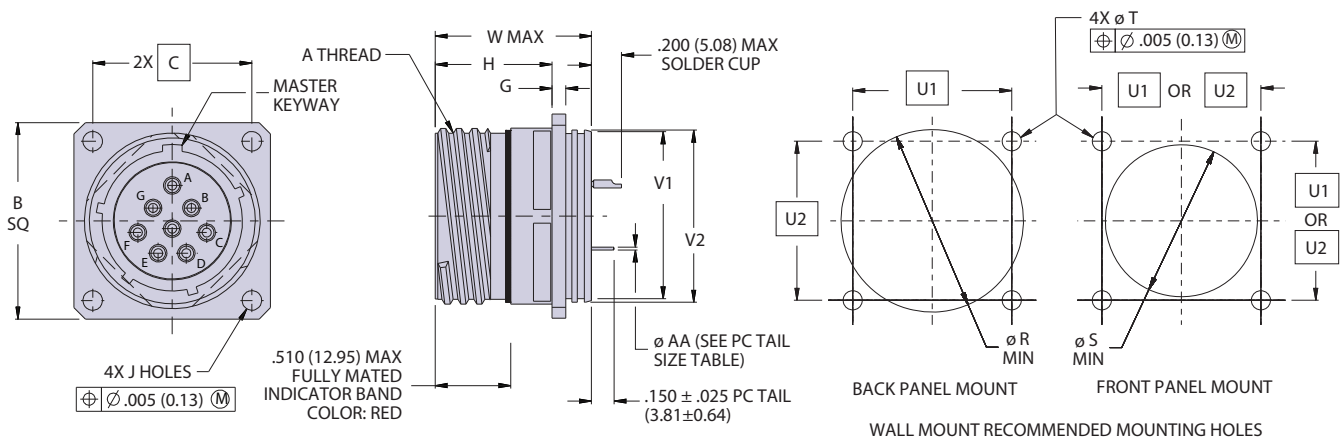


MIL-DTL-38999 Series III Type

233-250 Wall mount or jam-nut receptacle, PC tails or solder cup

CODE RED LIGHT WEIGHT HERMETIC CONNECTORS

233-250-D0 WALL MOUNT RECEPTACLE WITH STANDARD HOLES



Recommended Mounting Holes for Wall and Box Mount Receptacles						
Shell Size Code	Shell Size	ø R Min	ø S Min	ø T Holes	U1 BSC	U2 BSC
A	09	0.656 (16.66)	0.516 (13.11)	0.133 (3.38) 0.123 (3.12)	0.719 (18.26)	0.594 (15.09)
B	11	0.796 (20.22)	0.625 (15.88)		0.812 (20.62)	0.719 (18.26)
C	13	0.922 (23.42)	0.750 (19.05)		0.906 (23.01)	0.812 (20.62)
D	15	1.047 (26.59)	0.906 (23.01)		0.969 (24.61)	0.906 (23.01)
E	17	1.219 (30.96)	1.016 (25.81)		1.062 (26.97)	0.969 (24.61)
F	19	1.297 (32.94)	1.141 (28.98)		1.156 (29.36)	1.062 (26.97)
G	21	1.422 (36.12)	1.266 (32.16)		1.250 (31.75)	1.156 (29.36)
H	23	1.547 (39.29)	1.375 (34.92)	0.159 (4.04) 0.149 (3.78)	1.375 (34.92)	1.250 (31.75)
J	25	1.672 (42.47)	1.484 (37.69)	0.155 (3.94) 0.145 (3.68)	1.500 (38.10)	1.375 (34.92)

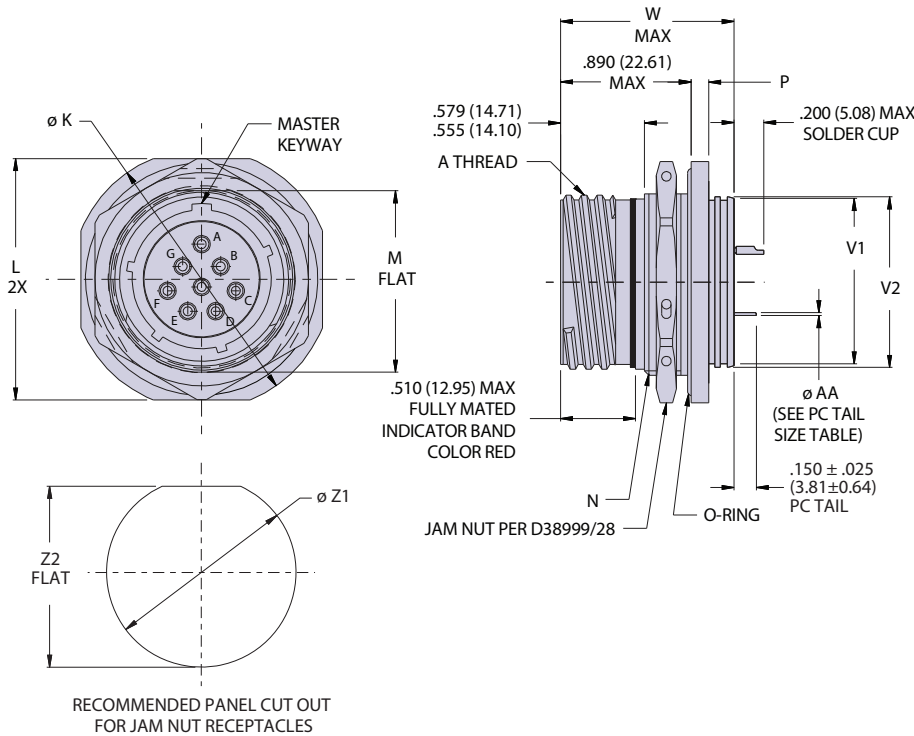
PC Tail Size	
Contact Size	øAA
22D	.020 (0.51)
	.018 (0.46)
20	.030 (0.76)
	.028 (0.71)
16	.040 (1.02)
	.038 (0.97)
12	.072 (1.83)
	.070 (1.78)

Dimensions									
Shell Size	A Thread	B SQ	C BSC	G	H	øJ Holes	øV1 ±.012	øV2 ±.012 -.000	W Max
09	.6250-.1P-.3L-TS-2A	0.949 (24.10) 0.925 (23.50)	0.719 (18.26)	0.098 (2.49) 0.083 (2.11)	0.820 (20.83) 0.771 (19.58)	0.136 (3.45) 0.120 (3.05)	0.602 (15.29)	0.642 (16.31)	1.280 (32.51)
11	.7500-.1P-.3L-TS-2A	1.043 (26.49) 1.019 (25.88)	.812 (20.62)				0.724 (18.39)	0.764 (19.41)	
13	.8750-.1P-.3L-TS-2A	1.138 (28.91) 1.114 (28.30)	.906 (23.01)				0.850 (21.59)	0.894 (22.71)	
15	1.0000-.1P-.3L-TS-2A	1.232 (31.29) 1.208 (30.68)	.969 (24.61)				0.976 (24.79)	1.020 (25.91)	
17	1.1875-.1P-.3L-TS-2A	1.323 (33.60) 1.299 (32.99)	1.062 (26.97)				1.102 (27.99)	1.142 (29.01)	
19	1.2500-.1P-.3L-TS-2A	1.449 (36.80) 1.425 (36.20)	1.156 (29.36)				1.228 (31.19)	1.268 (32.21)	
21	1.3750-.1P-.3L-TS-2A	1.575 (40.00) 1.551 (39.40)	1.250 (31.75)				1.350 (34.29)	1.394 (35.41)	
23	1.5000-.1P-.3L-TS-2A	1.701 (43.21) 1.677 (42.60)	1.375 (34.92)	0.126 (3.20) 0.083 (2.11)	0.790 (20.07) 0.741 (18.82)	0.162 (4.11) 0.146 (3.71)	1.476 (37.49)	1.520 (38.61)	
25	1.6250-.1P-.3L-TS-2A	1.823 (46.30) 1.799 (45.69)	1.500 (38.10)				1.602 (40.69)	1.642 (41.71)	

MIL-DTL-38999 Series III Type

233-250 Jam-nut receptacle, PC tails or solder cup

233-250 JAM NUT MOUNT RECEPTACLE



Panel Cut-Out Dimensions for Jam Nut Receptacles		
Shell Size	$\phi Z1$	Z2 Flat
09	0.703 (17.86)	0.661 (16.79)
	0.693 (17.60)	0.654 (16.61)
11	0.835 (21.21)	0.771 (19.58)
	0.825 (20.96)	0.761 (19.33)
13	1.020 (25.91)	0.955 (24.26)
	1.010 (25.65)	0.945 (24.00)
15	1.145 (29.08)	1.085 (27.56)
	1.135 (28.83)	1.075 (27.30)
17	1.270 (32.26)	1.210 (30.73)
	1.260 (32.00)	1.200 (30.48)
19	1.395 (35.43)	1.335 (33.91)
	1.385 (35.18)	1.325 (33.65)
21	1.520 (38.61)	1.460 (37.08)
	1.510 (38.35)	1.450 (36.83)
23	1.645 (41.78)	1.585 (40.26)
	1.635 (41.53)	1.575 (40.00)
25	1.770 (44.96)	1.710 (43.43)
	1.760 (44.70)	1.700 (43.18)

Dimensions									
Shell Size	A Thread	ϕK	L	M Flat	N Thread	P	$\phi V1 \pm .012$	$\phi V2 \pm .012 - .000$	W Max
09	.6250-.1P-.3L-TS-2A	1.200 (30.48) 1.178 (29.92)	1.078 (27.38) 1.048 (26.62)	0.654 (16.61) 0.645 (16.38)	M17 X 1.0-6g 0.100R	.122 (3.10) .083 (2.11)	0.602 (15.29)	0.642 (16.31)	1.280 (32.51)
11	.7500-.1P-.3L-TS-2A	1.386 (35.20) 1.362 (34.59)	1.268 (32.21) 1.236 (31.39)	0.755 (19.18) 0.745 (18.92)	M20 X 1.0-6g 0.100R		0.724 (18.39)	0.764 (19.41)	
13	.8750-.1P-.3L-TS-2A	1.512 (38.40) 1.488 (37.80)	1.390 (35.31) 1.358 (34.49)	0.942 (23.93) 0.932 (23.67)	M25 X 1.0-6g 0.100R		0.850 (21.59)	0.894 (22.71)	
15	1.0000-.1P-.3L-TS-2A	1.638 (41.61) 1.614 (41.00)	1.516 (38.51) 1.484 (37.69)	1.066 (27.08) 1.056 (26.82)	M28 X 1.0-6g 0.100R		0.976 (24.79)	1.020 (25.91)	
17	1.1875-.1P-.3L-TS-2A	1.764 (44.81) 1.740 (44.20)	1.642 (41.71) 1.610 (40.89)	1.191 (30.25) 1.181 (30.00)	M32 X 1.0-6g 0.100R		1.102 (27.99)	1.142 (29.01)	
19	1.2500-.1P-.3L-TS-2A	1.949 (49.50) 1.925 (48.90)	1.827 (46.41) 1.795 (45.59)	1.316 (33.43) 1.306 (33.17)	M35 X 1.0-6g 0.100R	1.228 (31.19)	1.268 (32.21)		
21	1.3750-.1P-.3L-TS-2A	2.075 (52.71) 2.051 (52.10)	1.953 (49.61) 1.921 (48.79)	1.441 (36.60) 1.431 (36.35)	M38 X 1.0-6g 0.100R	.153 (3.89) .114 (2.90)	1.350 (34.29)	1.394 (35.41)	
23	1.5000-.1P-.3L-TS-2A	2.201 (55.91) 2.177 (55.30)	2.079 (52.81) 2.047 (51.99)	1.566 (39.78) 1.556 (39.52)	M41 X 1.0-6g 0.100R		1.476 (37.49)	1.520 (38.61)	
25	1.6250-.1P-.3L-TS-2A	2.323 (59.00)	2.205 (56.01)	1.691 (42.95)	M44 X 1.0-6g 0.100R		1.602 (40.69)	1.642 (41.71)	
		2.299 (58.39)	2.173 (55.19)	1.681 (42.70)					

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