

MIL-DTL-38999 Series III Type

233-271 Hermetic receptacle with thermocouple contacts

Part Number Development												
Sample Part Number	233-271				-H2	Z1	11	-98	P	N	-K	1
Series / Basic Part No.	Series 23 SuperNine Receptacle											
Connector Style	H2 = Flange Mount H7 = Jam-Nut Mount		H5 = Solder Mount H8 = Weld Mount									
Finish*	Z1 = CRES, Passivated		ZL = CRES, Nickel Finish									
Shell Size	Per MIL-DTL-38999											
Arrangement	Per MIL-STD-1560											
Contact Style	C = Pin, PC Tail			P = Pin, Solder Cup			X = Pin, Eyelet					
Polarization*	A, B, C, D, E, N = Normal; see section A for key position details											
Thermocouple Type	E, J, K, T only											
Pairs of T/C	See note 4											

Contact Size	
Contact Size	Ø P
23	.015 (0.38) .011 (0.28)
22D	.015 (0.38) .011 (0.28)
20	.028 (0.71) .024 (0.61)
16	.0635 (1.61) .0615 (1.56)
12	.095 (2.41) .093 (2.36)

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

Contact Types			
T/C Types	Positive Legs	Negative Legs	Application Range (°F)
E	Chromel	Constantan	200° to 1650°
J	Iron	Constantan	200° to 1400°
K	Chromel	Alumel	200° to 2300°
T	Copper	Constantan	-330° to 660°

Material/Finish

- Shell and jam-nut:
Z1 = 300 Series CRES/Passivated,
ZL = 300 Series CRES/nickel plated
- Contact, pins thermocouple = per P/N development
JP = cadmium; TP = gold flash;
balance = none
balance = nickel alloy/gold plated
- Insulator, hermetic = Fused vitreous glass/none
- Insulator, socket: rigid dielectric/none
- Seals & o-rings: fluorosilicone/none

NOTES

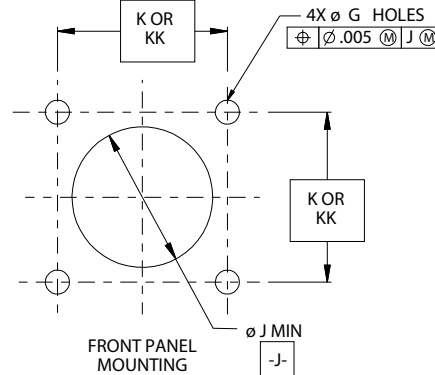
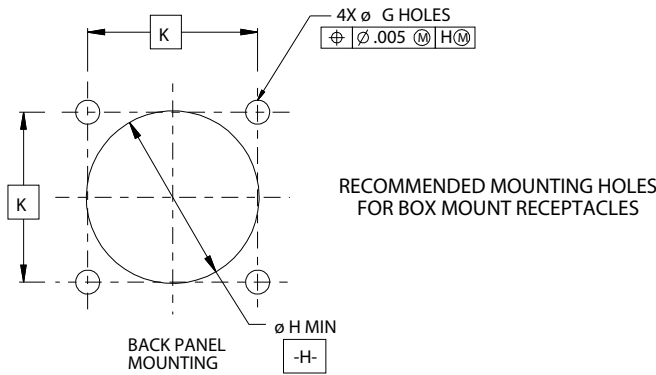
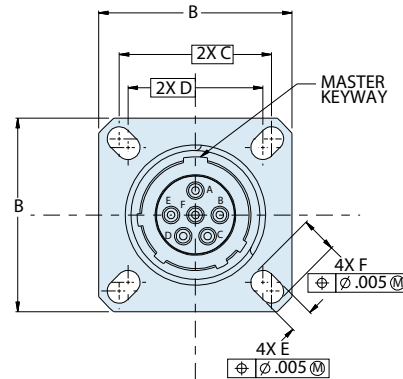
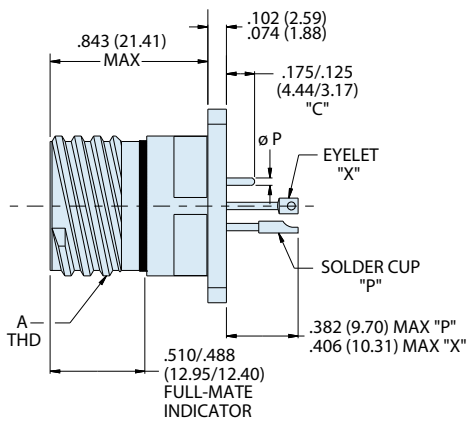
1. Hermeticity: 1×10^{-7} ccHe/sec @ 1 atmosphere delta pressure
2. IR: 5000 MegOhms min @ 500 VDC
3. DWV: per DWV Voltage Levels at Sea Level table
4. All thermocouple contact pairs will begin at contact #1 (A) as "+", and 2 (B) as "-". Each additional pair of thermocouple contacts will repeat sequentially I.E.: 1&2 (A&B); 3&4 (C&D), etc
5. Application range is for thermocouple, not the connector. Connector temp range is -85 to 392°F

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HERMETIC CONNECTORS

233-271-H2 FLANGE MOUNT RECEPTACLE

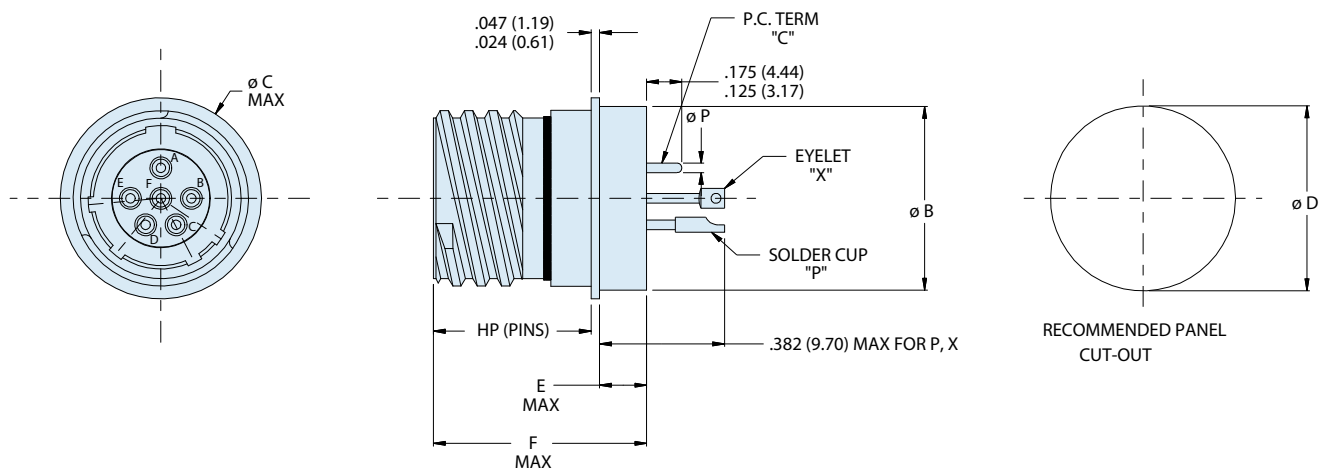


Flange Mount Feed-Thru Dimensions												
SHELL SIZE CODE	SHELL SIZE	A THREAD	B SQ	C BSC	D BSC	E	F	Ø H MIN	Ø J MIN	Ø G HOLES	K BSC	KK BSC
A	9	.6250-1P-3L-TS-2A	0.949 (24.10) 0.925 (23.50)	0.719 (18.26)	0.594 (15.09)	0.136 (3.45) 0.120 (3.05)	0.224 (5.69) 0.208 (5.28)	0.656 (16.66)	0.516 (13.11)	0.133 (3.38) 0.123 (3.12)	0.719 (18.26)	0.594 (15.09)
B	11	.7500-1P-3L-TS-2A	1.043 (26.49) 1.019 (25.88)	0.812 (20.62)	0.719 (18.26)	0.136 (3.45) 0.120 (3.05)	0.202 (5.13) 0.186 (4.72)	0.781 (19.84)	0.625 (15.88)	0.133 (3.38) 0.123 (3.12)	0.812 (20.62)	0.719 (18.26)
C	13	.8750-1P-3L-TS-2A	1.138 (28.91) 1.114 (28.30)	0.906 (23.01)	0.812 (20.62)	0.136 (3.45) 0.120 (3.05)	0.202 (5.13) 0.186 (4.72)	0.921 (23.39)	0.750 (19.05)	0.133 (3.38) 0.123 (3.12)	0.906 (23.01)	0.812 (20.62)
D	15	1.0000-1P-3L-TS-2A	1.232 (31.29) 1.208 (30.68)	0.969 (24.61)	0.906 (23.01)	0.136 (3.45) 0.120 (3.05)	0.181 (4.60) 0.165 (4.19)	1.047 (26.59)	0.906 (23.01)	0.133 (3.38) 0.123 (3.12)	0.969 (24.61)	0.906 (23.01)
E	17	1.1875-1P-3L-TS-2A	1.323 (33.60) 1.299 (32.99)	1.062 (26.97)	0.969 (24.61)	0.136 (3.45) 0.120 (3.05)	0.202 (5.13) 0.186 (4.72)	1.218 (30.94)	1.016 (25.81)	0.133 (3.38) 0.123 (3.12)	1.062 (26.97)	0.969 (24.61)
F	19	1.2500-1P-3L-TS-2A	1.449 (36.80) 1.425 (36.20)	1.156 (29.36)	1.062 (26.97)	0.136 (3.45) 0.120 (3.05)	0.202 (5.13) 0.186 (4.72)	1.296 (32.92)	1.142 (29.01)	0.133 (3.38) 0.123 (3.12)	1.156 (29.36)	1.062 (26.97)
G	21	1.3750-1P-3L-TS-2A	1.575 (40.00) 1.551 (39.40)	1.250 (31.75)	1.156 (29.36)	0.136 (3.45) 0.120 (3.05)	0.202 (5.13) 0.186 (4.72)	1.421 (36.09)	1.266 (32.16)	0.133 (3.38) 0.123 (3.12)	1.250 (31.75)	1.156 (29.36)
H	23	1.5000-1P-3L-TS-2A	1.701 (43.21) 1.677 (42.60)	1.375 (34.92)	1.250 (31.75)	0.162 (4.11) 0.146 (3.71)	0.250 (6.35) 0.234 (5.94)	1.546 (39.27)	1.375 (34.92)	0.159 (4.04) 0.149 (3.78)	1.375 (34.92)	1.250 (31.75)
J	25	1.6250-1P-3L-TS-2A	1.823 (46.30) 1.799 (45.69)	1.500 (38.10)	1.375 (34.92)	0.162 (4.11) 0.146 (3.71)	0.250 (6.35) 0.234 (5.94)	1.672 (42.47)	1.484 (37.69)	0.159 (4.04) 0.149 (3.78)	1.500 (38.10)	1.375 (34.92)

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233-271-H5 SOLDER MOUNT RECEPTACLE



Solder Mount Feed-Through Dimensions

SHELL SIZE CODE	SHELL SIZE	A THREAD	B MAX	C MAX	D	E MAX	F MAX	HP MAX
A	9	.6250-1P-.3L-TS-2A	.673 (17.09)	.764 (19.41)	.685 (17.40) .675 (17.15)	.201 (5.11)	.937 (23.80)	.677 (17.20)
B	11	.7500-1P-.3L-TS-2A	.783 (19.89)	.858 (21.79)	.794 (20.17) .784 (19.91)	.201 (5.11)	.937 (23.80)	.677 (17.20)
C	13	.8750-1P-.3L-TS-2A	.909 (23.09)	.980 (24.89)	.920 (23.37) .910 (23.11)	.201 (5.11)	.937 (23.80)	.677 (17.20)
D	15	1.0000-1P-.3L-TS-2A	1.031 (26.19)	1.106 (28.09)	1.043 (26.49) 1.033 (26.24)	.201 (5.11)	.937 (23.80)	.677 (17.20)
E	17	1.1875-1P-.3L-TS-2A	1.157 (29.39)	1.232 (31.29)	1.169 (29.69) 1.159 (29.44)	.201 (5.11)	.937 (23.80)	.677 (17.20)
F	19	1.2500-1P-.3L-TS-2A	1.252 (31.80)	1.323 (33.60)	1.263 (32.08) 1.253 (31.83)	.201 (5.11)	.937 (23.80)	.677 (17.20)
G	21	1.3750-1P-.3L-TS-2A	1.378 (35.00)	1.449 (36.80)	1.389 (35.28) 1.379 (35.03)	.201 (5.11)	.937 (23.80)	.677 (17.20)
H	23	1.5000-1P-.3L-TS-2A	1.504 (38.20)	1.575 (40.00)	1.515 (38.48) 1.505 (38.23)	.232 (5.89)	.969 (24.61)	.677 (17.20)
J	25	1.6250-1P-.3L-TS-2A	1.626 (41.30)	1.701 (43.21)	1.638 (41.61) 1.628 (41.35)	.232 (5.89)	.969 (24.61)	.677 (17.20)

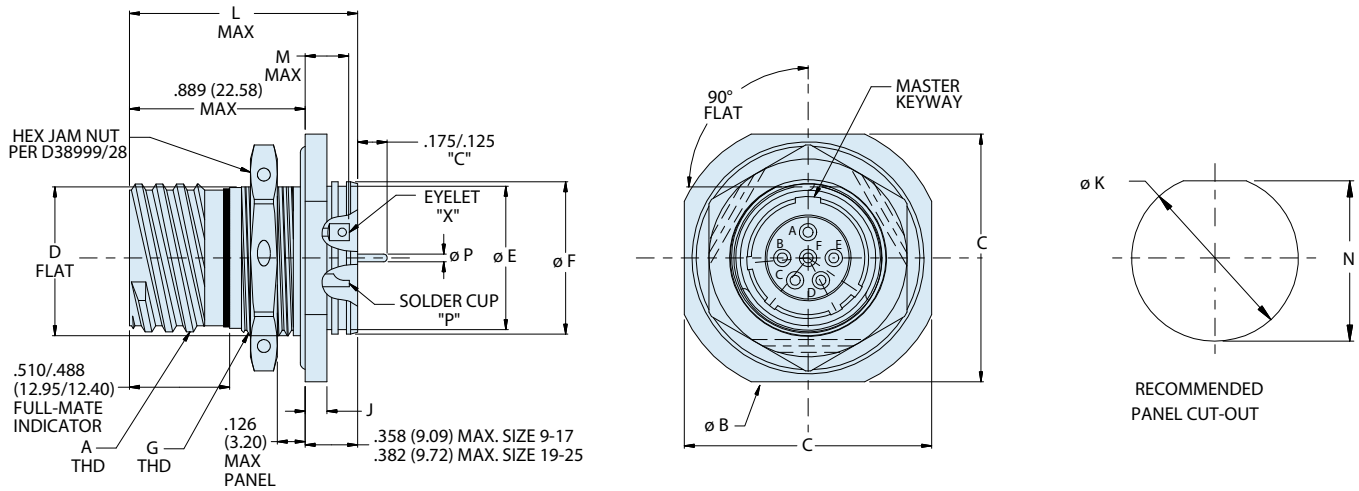
HERMETIC CONNECTORS

MIL-DTL-38999 Series III Type

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HERMETIC CONNECTORS

233-271-H7 JAM-NUT MOUNT RECEPTACLE

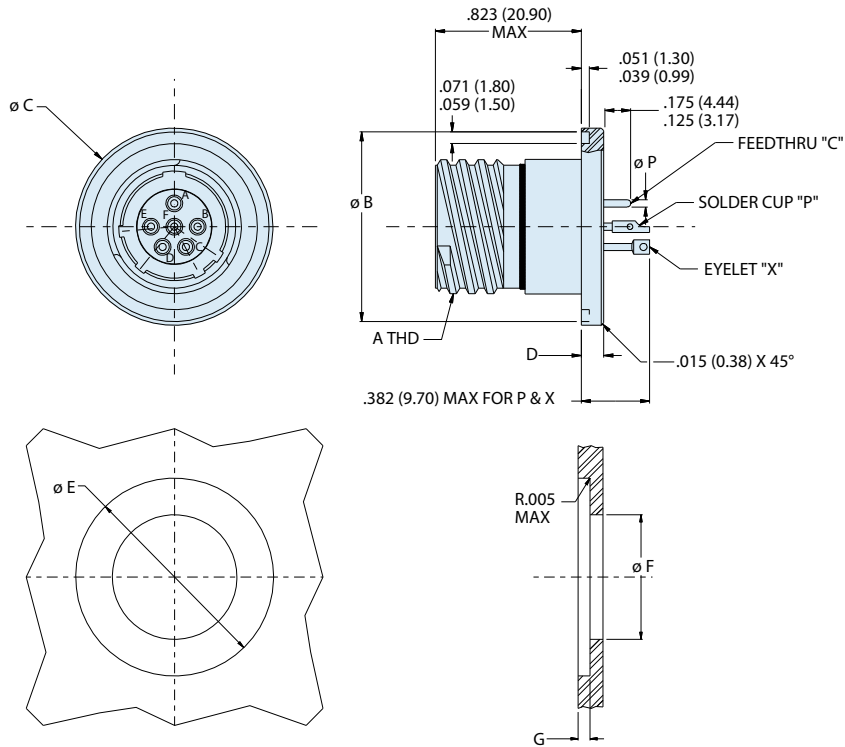


Jam-Nut Mount Feed-Thru Dimensions													
SHELL SIZE CODE	SHELL SIZE	A THREAD -0.1P-0.3L- TS	ø B	C A/F ±.015	D FLAT ±.005	ø E ±.012	ø F	G THREAD ISO METRIC	J ±.008	ø K ±.005	L MAX	P & X	N ±.005 (*±.003)
A	9	0.625	1.201 (30.51) 1.177 (29.90)	1.063 (27.00)	0.650 (16.51)	0.602 (15.29)	0.653 (16.59) 0.642 (16.31)	M17 X 1.0-6g	0.106 (2.69)	0.698 (17.73)	1.150 (29.21)	0.209 (5.31)	.658* (16.71)
B	11	0.750	1.386 (35.20) 1.362 (34.59)	1.252 (31.80)	0.750 (19.05)	0.724 (18.39)	0.775 (19.68) 0.764 (19.41)	M20 X 1.0-6g	0.106 (2.69)	0.830 (21.08)	1.150 (29.21)	0.209 (5.31)	0.766 (19.46)
C	13	0.875	1.512 (38.40) 1.488 (37.80)	1.374 (34.90)	0.937 (23.80)	0.850 (21.59)	0.905 (22.99) 0.894 (22.71)	M25 X 1.0-6g	0.106 (2.69)	1.015 (25.78)	1.154 (29.31)	0.201 (5.11)	0.950 (24.13)
D	15	1.000	1.638 (41.61) 1.614 (41.00)	1.500 (38.10)	1.061 (26.95)	0.976 (24.79)	1.031 (26.19) 1.020 (25.91)	M28 X 1.0-6g	0.106 (2.69)	1.140 (28.96)	1.154 (29.31)	0.201 (5.11)	1.080 (27.43)
E	17	1.187	1.764 (44.81) 1.740 (44.20)	1.626 (41.30)	1.186 (30.12)	1.102 (27.99)	1.153 (29.29) 1.142 (29.01)	M32 X 1.0-6g	0.106 (2.69)	1.265 (32.13)	1.154 (29.31)	0.201 (5.11)	1.205 (30.61)
F	19	1.250	1.949 (49.50) 1.925 (48.90)	1.811 (46.00)	1.311 (33.30)	1.228 (31.19)	1.279 (32.49) 1.268 (32.21)	M35 X 1.0-6g	0.138 (3.51)	1.390 (35.31)	1.185 (30.10)	0.201 (5.11)	1.330 (33.78)
G	21	1.375	2.075 (52.71) 2.051 (52.10)	1.937 (49.20)	1.436 (36.47)	1.350 (34.29)	1.405 (35.69) 1.394 (35.41)	M38 X 1.0-6g	0.138 (3.51)	1.515 (38.48)	1.185 (30.10)	0.201 (5.11)	1.455 (36.96)
H	23	1.500	2.201 (55.91) 2.177 (55.30)	2.063 (52.40)	1.561 (39.65)	1.476 (37.49)	1.531 (38.89) 1.520 (38.61)	M41 X 1.0-6g	0.138 (3.51)	1.640 (41.66)	1.185 (30.10)	0.201 (5.11)	1.580 (40.13)
J	25	1.625	2.323 (59.00) 2.299 (58.39)	2.189 (55.60)	1.686 (42.82)	1.602 (40.69)	1.653 (41.99) 1.642 (41.71)	M44 X 1.0-6g	0.138 (3.51)	1.765 (44.83)	1.185 (30.10)	0.201 (5.11)	1.705 (43.31)

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233-271-H8 WELD MOUNT RECEPTACLE



HERMETIC CONNECTORS

Weld Mount Feed-Thru Connector Dimensions					
SHELL SIZE CODE	SHELL SIZE	A THREAD	ϕB	ϕC	D
A	9	.6250-.1P-.3L-TS-2A	0.941 (23.90) 0.929 (23.60)	0.984 (24.99) 0.972 (24.69)	0.134 (3.40) 0.118 (3.00)
B	11	.7500-.1P-.3L-TS-2A	1.063 (27.00) 1.051 (26.70)	1.106 (28.09) 1.094 (27.79)	0.134 (3.40) 0.118 (3.00)
C	13	.8750-.1P-.3L-TS-2A	1.189 (30.20) 1.177 (29.90)	1.232 (31.29) 1.220 (30.99)	0.134 (3.40) 0.118 (3.00)
D	15	1.0000-.1P-.3L-TS-2A	1.315 (33.40) 1.303 (33.10)	1.358 (34.49) 1.346 (34.19)	0.134 (3.40) 0.118 (3.00)
E	17	1.1875-.1P-.3L-TS-2A	1.402 (35.61) 1.390 (35.31)	1.445 (36.70) 1.433 (36.40)	0.134 (3.40) 0.118 (3.00)
F	19	1.2500-.1P-.3L-TS-2A	1.547 (39.29) 1.535 (38.99)	1.591 (40.41) 1.579 (40.11)	0.134 (3.40) 0.118 (3.00)
G	21	1.3750-.1P-.3L-TS-2A	1.689 (42.90) 1.677 (42.60)	1.732 (43.99) 1.720 (43.69)	0.134 (3.40) 0.118 (3.00)
H	23	1.5000-.1P-.3L-TS-2A	1.854 (47.09) 1.842 (46.79)	1.898 (48.21) 1.886 (47.90)	0.165 (4.19) 0.149 (3.78)
J	25	1.6250-.1P-.3L-TS-2A	1.941 (49.30) 1.929 (49.00)	1.984 (50.39) 1.972 (50.09)	0.165 (4.19) 0.149 (3.78)

Recommended Panel Cutout			
SHELL SIZE	ϕE	ϕF MIN	DEPTH G $\pm .005$
9	.990 (25.15)	0.300 (7.62)	0.126 (3.20)
	.985 (25.02)		
11	1.112 (28.24)	0.430 (10.92)	0.126 (3.20)
	1.107 (28.12)		
13	1.238 (31.45)	0.550 (13.97)	0.126 (3.20)
	1.233 (31.32)		
15	1.364 (34.65)	0.675 (17.15)	0.126 (3.20)
	1.359 (34.52)		
17	1.451 (36.86)	0.795 (20.19)	0.126 (3.20)
	1.446 (36.73)		
19	1.597 (40.56)	0.895 (22.73)	0.126 (3.20)
	1.592 (40.44)		
21	1.738 (44.15)	1.010 (25.65)	0.126 (3.20)
	1.733 (44.02)		
23	1.904 (48.36)	1.135 (28.83)	0.157 (3.99)
	1.899 (48.23)		
25	1.990 (50.55)	1.250 (31.75)	0.157 (3.99)
	1.985 (50.42)		