

MIL-DTL-38999 Series III Type Environmental Connectors 233-227 Bulkhead feed-thru connectors

HIGH-SPEED CONNECTORS

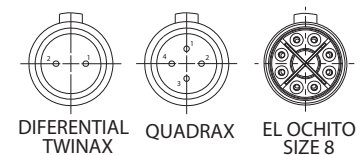
Part Number Development	
Sample Part Number	233-227 -00 NF 17 E - 2 P N S N 01
Series / Basic Part No.	SuperNine® High-Speed bulkhead feed-thru
Connector Style	-00 = Receptacle, Wall-Mount with Slotted Holes -07 = Jam Nut Mount Receptacle -CM = Receptacle, Wall Mount with Metric Clinch Nuts -CS = Receptacle, Wall Mount with Standard Clinch Nuts -HM = Receptacle, Wall Mount with Metric Helicoils -HS = Receptacle, Wall Mount with Standard Helicoils
Material/Finish	NF = Cadmium Olive Drab MT = Nickel PTFE ME = Electroless Nickel ZR = Black Zinc Nickel
Shell Size	9, 11, 13, 17, 19, 21, 23, 25
Contact Type	C = Coax C1 = Coax, 75 ohm D = Differential Twinax E = El Ochito ⁷ Q = Quadrax P = Power T = Triax/Concentric Twinax See Table I
Ground Option	G = Common Ground ⁷ - = None
Insert Arrangement	Per MIL-STD-1560, see page C-5 and C-6
Contact Style (Panel Side)	P = Pin, Gold, 500 Cycles S = Socket, Gold, 500 Cycles (See note 8 and 9)
Alternate Polarization* (Panel Side)	A, B, C, D, E, N = Normal (IAW MIL-DTL-38999 Series III)
Contact Style (Flange Side)	P = Pin, Gold, 500 Cycles S = Socket, Gold, 500 Cycles (See note 8 and 9)
Alternate Polarization* (Flange Side)	A, B, C, D, E, N = Normal (IAW MIL-DTL-38999 Series III)
Panel Accommodation	See Table III

*Refer to Section A for alternate key polarization options and recommended panel cutout dimensions

Sym	Description	Glenair P/N	Wire Type	Grommet Follower	Application Notes
C	Size 16, contact for coax cable, per M39029/76 & /77;	Pin: 852-008-16-424 Skt: 852-009-16-428	RG174, RG316, RG179	N/A	Analog radio frequency or microwave applications
	Size 12, contact for coax cable, per M39029/102 & /103	Pin: 852-004-12-558 Skt: 852-005-12-559	RG174, RG316, RG179	N/A	
	Size 8, contact for coax cable, per M39029/59 & /60	Pin: 852-007-08-367 Skt: 852-006-08-366	M17 /95-RG180	859-042-02	
C1	Size 8, contact for 75 ohm coax cable	Pin: 852-056-01 Skt: 852-057-01	V73263, V75268, V76261	859-042-01	aerospace-grade digital video
D	Size 8, diff. twinax contact for 24 AWG twinax cable	Pin: 853-014-05 Skt: 853-013-05	M17 /176-00002	859-042-01	1553 databus / differential signal
E**	Size 8, El Ochito® contact for 26 AWG	White Pin: 858-003-02 Skt: 858-004-02	963-003-26 963-033-26	687-643-8-2	1G/10G Base-T Ethernet (white)
	Size 8, El Ochito® contact for 24/26-30 AWG Cable	Blue Pin: 858-028-02 Skt: 858-029-02	963-110 & 963-118	687-643-8-2	USB 3.0 (Blue)
	Size 8, El Ochito® contact for 26-30 AWG Cable	Red Pin: 858-030-02 Skt: 858-031-02	963-033-26	687-643-8-2	SATA 3.0 General High Speed (red)
Q	Size 8, contact for 24 AWG Quadrax	Pin: 854-001-02 Skt: 854-002-02	963-020	859-042-02	10/100Base-T ethernet
P	Size 8, power contact for 8 AWG	Pin: 850-014 Skt: 850-013	M22759/11 or equivalent	859-042-03	Power
T	Size 8, triax/concentric twinax for twinax cable	Pin: 853-003-08-625 Skt: 853-004-08-628	M17 /176-00002	859-042-01	1553 Databus

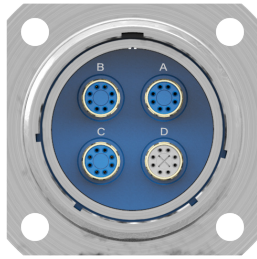
Sym	Panel Thickness	J Max
01	.125 (3.18) .062 (1.57)	1.70 (43.18)
02	.250 (6.35) .062 (1.57)	1.83 (46.48)
03	.500 (12.70) .062 (1.57)	2.08 (52.83)

FIGURE 2: REFERENCE ORIENTATION OF INNER PINS RELATIVE TO CONNECTOR MAIN KEY/KEYWAY



** See Table II for Contact Positions. See Figure 2 for orientation of inner pins relative to connector main key/keyway.

MIL-DTL-38999 Series III Type Environmental Connectors
233-227 Bulkhead feed-thru connectors



Example Code E7



Example Code E5

NOTES

- Coax contact mating interfaces shall be in accordance with the following:
 - size #16 per M39029/76 & /77
 - size #12 per M39029/102 & 103
 - size #8, 50 ohm per M39029/59 & 60
 - size #8, 75 ohm per 852-056 and -057
- See page C-4, figure 2 for reference orientation of the inner pins relative to connector main keyway.
- Insert arrangement is in accordance with MIL-STD-1560 and figure 1. Contact manufacturer for additional arrangement options
- Glenair 233-227 feedthru connectors are designed to meet or exceed the applicable mechanical, dimensional, electrical, and environmental requirements of MIL-DTL-38999, D38999/20, and MIL-STD-1560 except as shown and/or noted. Feedthru mates with any QPL manufacturer's MIL-DTL-38999, Series III plug connector, D38999/26, having the same shell size, insert arrangement, polarization, and mating contact.
- El Ochito mating contact shall be in accordance with El Ochito contact configuration table on C-12. For optimal El Ochito performance, see Glenair application note AN0002.
- Front panel mount only.
- Ground plane option only available for insert arrangements where all contacts are shielded type.
- Power to a given contact on one end will result in power to a contact directly opposite, regardless of identification letter
- For pin/pin and socket/socket, symmetrical layout only. Consult factory for available insert arrangements
- Material/finish:
 - Shell: see part number development
 - Contacts: copper alloy / gold plated
 - Insulators: high grade rigid dielectric / N.A.
 - Seals: fluorosilicone blend / N.A.

El Ochito Contact Configuration								
SYM	CAVITY A	CAVITY B	CAVITY C	CAVITY D	CAVITY E	CAVITY F	CAVITY G	CAVITY H
E	W	W	W	W	W	W	W	W
E2	B	W	W	W	W	W	W	W
E3	R	W	W	W	W	W	W	W
E4	B	B	W	W	W	W	W	W
E5	R	B	W	W	W	W	W	W
E6	R	R	W	W	W	W	W	W
E7	B	B	B	W	W	W	W	W
E8	R	B	B	W	W	W	W	W
E9	R	R	B	W	W	W	W	W
E10	R	R	R	W	W	W	W	W
E11	B	B	B	B	W	W	W	W
E12	R	B	B	B	W	W	W	W
E13	R	R	B	B	W	W	W	W
E14	R	R	R	B	W	W	W	W
E15	R	R	R	R	W	W	W	W
E16	B	B	B	B	B	W	W	W
E17	R	B	B	B	B	W	W	W
E18	R	R	B	B	B	W	W	W
E19	R	R	R	B	B	W	W	W
E20	R	R	R	R	B	W	W	W
E21	R	R	R	R	R	W	W	W
E22	B	B	B	B	B	B	W	W
E23	R	B	B	B	B	B	W	W
E24	R	R	B	B	B	B	W	W
E25	R	R	R	B	B	B	W	W
E26	R	R	R	R	B	B	W	W
E27	R	R	R	R	R	B	W	W
E28	R	R	R	R	R	R	W	W
E29	B	B	B	B	B	B	B	W
E30	R	B	B	B	B	B	B	W
E31	R	R	B	B	B	B	B	W
E32	R	R	R	B	B	B	B	W
E33	R	R	R	R	B	B	B	W
E34	R	R	R	R	R	B	B	W
E35	R	R	R	R	R	R	B	W
E36	R	R	R	R	R	R	R	W
E37	B	B	B	B	B	B	B	B
E38	R	B	B	B	B	B	B	B
E39	R	R	B	B	B	B	B	B
E40	R	R	R	B	B	B	B	B
E41	R	R	R	R	B	B	B	B
E42	R	R	R	R	R	B	B	B
E43	R	R	R	R	R	R	B	B
E44	R	R	R	R	R	R	R	B
E45	R	R	R	R	R	R	R	R

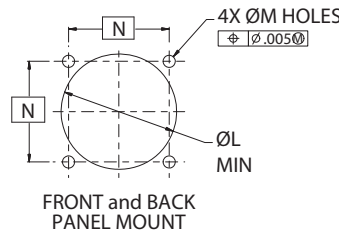
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233-227 Bulkhead feed-thru connectors

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Dimensions																
Shell Size Code	Shell Size	A Thread	B Sq	B' Sq	C Bsc	D Bsc (See Note 8)	E	F	G	G'	H Thd	H' Thd				
A	9	.6250 -0.1P-0.3L-TS-2A	.948 (24.08) .925 (23.50)	1.094 (27.79) 1.054 (26.77)	.719 (18.26)	.594 (15.09)	.136 (3.45) .120 (3.05)	.224 (5.69) .208 (5.28)	.122 (3.10) .083 (2.11)	.179 (4.55) .140 (3.56)	.112-40 UNC	M3X0.5				
B	11	.7500 -0.1P-0.3L-TS-2A	1.043 (26.49) 1.019 (25.88)	1.187 (30.15) 1.147 (29.13)	.812 (20.62)	.719 (18.26)		.202 (5.13) .186 (4.72)								
C	13	.8750 -0.1P-0.3L-TS-2A	1.137 (28.88) 1.114 (28.30)	1.281 (32.54) 1.241 (31.52)	.906 (23.01)	.812 (20.62)		.181 (4.60) .165 (4.19)								
D	15	1.0000-0.1P-0.3L-TS-2A	1.232 (31.29) 1.208 (30.68)	1.344 (34.14) 1.304 (33.12)	.969 (24.61)	.906 (23.01)		.202 (5.13) .186 (4.72)								
E	17	1.1875 -0.1P-0.3L-TS-2A	1.299 (32.99) 1.323 (33.60)	1.437 (36.50) 1.397 (35.48)	1.062 (26.97)	.969 (24.61)										
F	19	1.2500 -0.1P-0.3L-TS-2A	1.449 (36.80) 1.425 (36.20)	1.531 (38.89) 1.491 (37.87)	1.156 (29.36)	1.062 (26.97)		.153 (3.89) .114 (2.90)								
G	21	1.3750 -0.1P-0.3L-TS-2A	1.575 (40.00) 1.551 (39.40)	1.625 (41.28) 1.585 (40.26)	1.250 (31.75)	1.156 (29.36)										
H	23	1.5000 -0.1P-0.3L-TS-2A	1.701 (43.21) 1.677 (42.60)	1.750 (44.45) 1.710 (43.43)	1.375 (34.92)	1.250 (31.75)		.162 (4.11) .146 (3.71)					.250 (6.35) .234 (5.94)	.190 (4.83) .170 (4.32)	.138-32 UNC	M4X0.7
J	25	1.6250 -0.1P-0.3L-TS-2A	1.823 (46.30) 1.799 (45.69)	1.875 (47.63) 1.835 (46.61)	1.500 (38.10)	1.375 (34.92)										

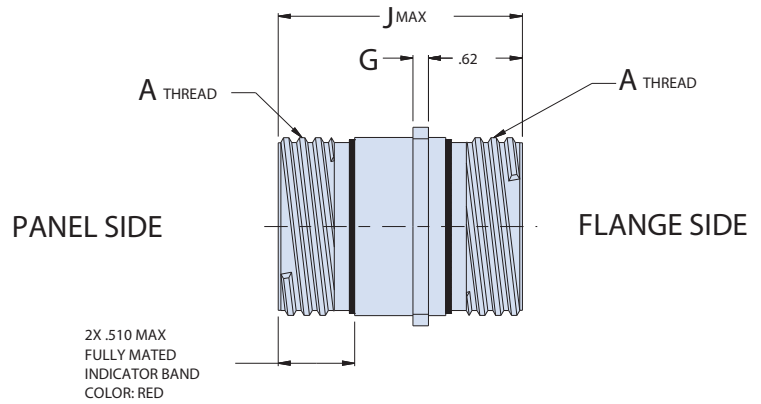
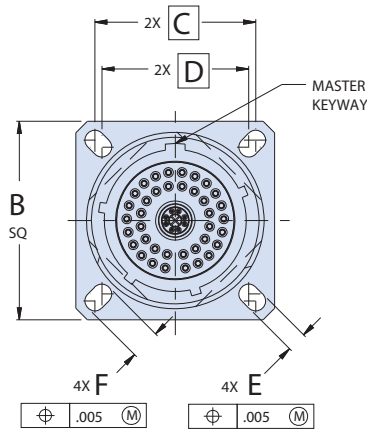
Wall Mount Mounting Hole Dimensions					
Shell Size Code	Shell Size	ØL Min	ØM Holes	N Bsc	
A	9	.656 (16.66)	.133 (3.38) .123 (3.12)	.719 (18.26)	
B	11	.796 (20.22)		.812 (20.62)	
C	13	.922 (23.42)		.906 (23.01)	
D	15	1.047 (26.59)		.969 (24.61)	
E	17	1.219 (30.96)		1.062 (26.97)	
F	19	1.297 (32.94)		1.156 (29.36)	
G	21	1.422 (36.12)		1.250 (31.75)	
H	23	1.547 (39.29)		.159 (4.04) .149 (3.78)	1.375 (34.92)
J	25	1.672 (42.47)		.155 (3.94) .145 (3.68)	1.500 (38.10)



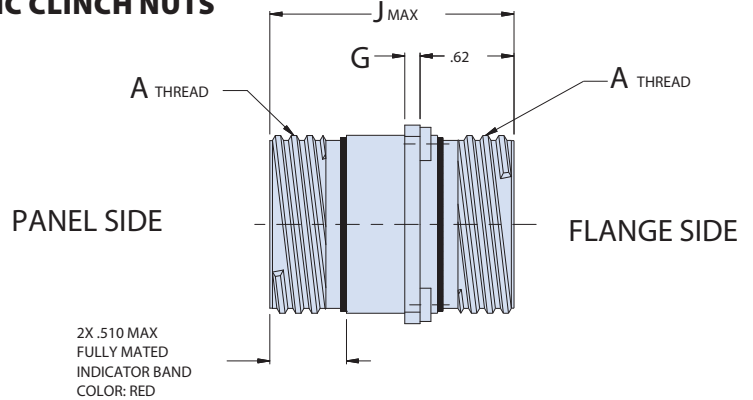
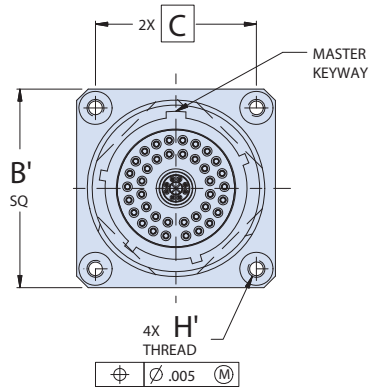
RECOMMENDED MOUNTING HOLES FOR WALL MOUNT RECEPTACLES

MIL-DTL-38999 Series III Type Environmental Connectors
233-227 Bulkhead feed-thru connectors

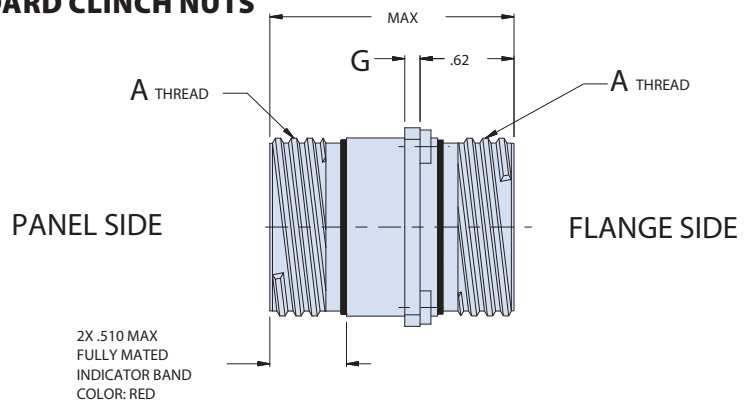
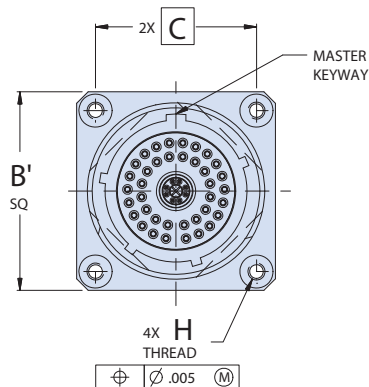
00 - WALL-MOUNT RECEPTACLE WITH SLOTTED HOLES



CM - WALL-MOUNT RECEPTACLE WITH METRIC CLINCH NUTS



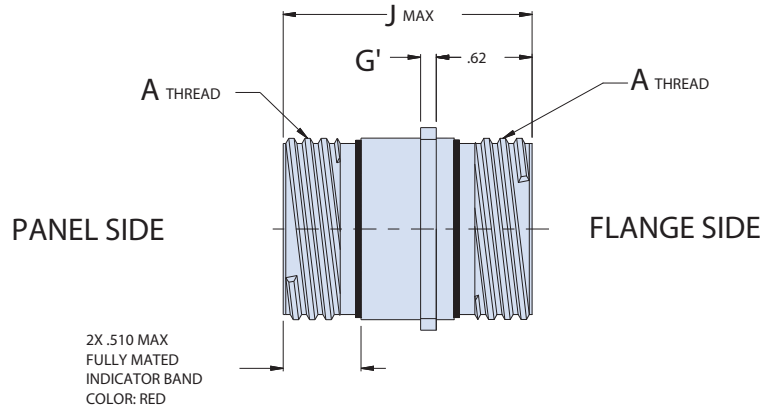
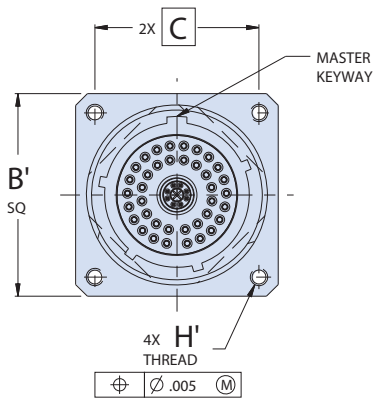
CS - WALL-MOUNT RECEPTACLE WITH STANDARD CLINCH NUTS



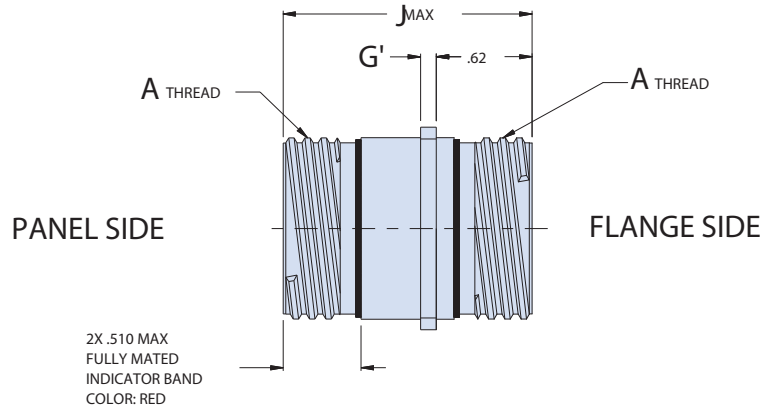
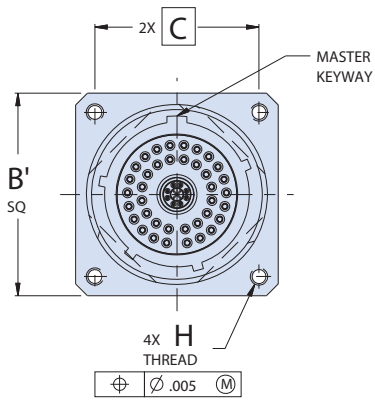
MIL-DTL-38999 Series III Type Environmental Connectors
233-227 Bulkhead feed-thru connectors

HIGH-SPEED CONNECTORS

HM - WALL-MOUNT RECEPTACLE WITH METRIC HELICOILS



HS - WALL-MOUNT RECEPTACLE WITH STANDARD HELICOILS



07 -

