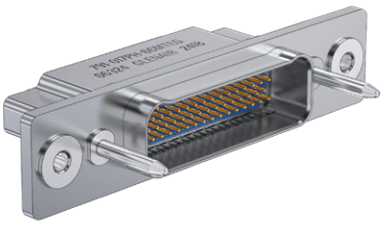
SERIES 791 Scoop-Proof

791-017
Panel Receptacle, Float Mounting

- Crimp, rear-release
- Float mount blind mate
- Pin contacts



791-017 panel mount receptacle has snap-in, rear-release M39029-type crimp contacts. Machined aluminum shell has stainless steel float bushings. High-density size 23 contacts are on .075 inch (1.9mm) centers and accept AWG 22-28 wire. Size 16 and size 12 cavities accept power contacts (supplied with connector) or coaxial RF contacts (ordered separately). Optional nickel-plated beryllium copper grounding spring. Shell has threaded holes for attaching EMI banding adapter (799-016, sold separately).

- Aerospace-grade ultraminiature connector with rugged scoop-proof duo-lobe shell
- Environmental
- 42 layouts with up to 153 contacts
- M39029-type crimp contacts

INSERT ARRANGEMENTS

FULL COMPLEMENT OF CONTACTS	#8, #12 OR #16 CONTACTS PURCHASED SEPARATELY	No. of Contacts			
		#23	#16	#12	#8
A-5		5			
B-2P2	B-2W2		2		
B-9		9			
C-13		13			
D-15		15			
D-3P3	D-3W3		3		
D-7P2	D-7W2	5	2		
E-11P2	E-11W2	9	2		
E-19		19			
E-7P3	E-7W3	4	3		
F-14P3	F-14W3	11	3		
F-15P2	F-15W2	13	2		
F-23		23			
F-5P5	F-5W5		5		
G-13P2	G-13W2	11		2	
G-21P1	G-21W1	20		1	
G-3P3	G-3W3			3	
G-33		33			
H-10P4	H-10W4	6		4	
H-29P7	H-29W7	22	7		
H-36P2	H-36W2	34		2	
H-51P1	H-51W1	50		1	
H-54P2	H-54W2	52	2		
H-5P5	H-5W5			5	
H-66		66			
J-17P4	J-17W4	13	4		
J-25P2	J-25W2	23	2		
J-33		33			
J-7P7	J-7W7		7		
K-27P4	K-27W4	23	4		
K-35P2	K-35W2	33	2		
K-43		43			
K-9P9	K-9W9		9		
L-22P4	L-22W4	18		4	
L-48P2	L-48W2	46		2	
L-6P6	L-6W6			6	
L-78		78			
M-17P17	M-17W17		17		
M-102		102			
M-4P4	M-4W4				4
N-13P13	N-13W13			13	
N-153		153			

HOW TO ORDER

Sample Part Number	791-017P	L-78	MT	E	G	B

Basic Part Number	**791-017P** Panel Receptacle, Float Mount, Pin Contacts
Shell Size-Insert Arr.	See "***Insert Arrangements***" Table
Shell Finish	**M** Electroless Nickel **MT** Nickel / PTFE **N** Olive Drab Cadmium **TZ** Tin-Zinc **ZR** Black Zinc-Nickel
EMI Spring	**E** EMI Spring **N** No EMI Spring
Hardware Option *Table 1*	**B** Guide Bushings *For blind mating* **G** Guide Pins *For blind mating* **N** No Hardware *Threaded holes*
Polarization Key Option	Enter Letter Designator for Position **A**, **B**, **C**, **D**, **E**, or **F** per Mod Code 555 (see page B-8 for details) **Omit** for none

CONSTRUCTION

- **Contacts:** Copper alloy, gold over nickel finish
- **Shell:** Aluminum
- **Insulators:** High performance thermoplastic
- **Wire grommet, face seal:** Fluorosilicone/silicone blend
- **Contact retaining clip:** Beryllium copper, unplated
- **Hardware:** Stainless steel

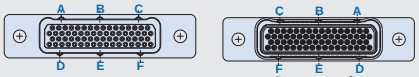
RATINGS

- **Voltage (DWV):** size 23 contacts 750 VAC, size 8, 12 and 16: 1800 VAC
- **Current:** #23 5A, #16 13A, #12 23A, #8 46A
- **Operating temperature:** -65 to +150 °C
- **Durability:** 500 mating cycles
- **Shock:** 300 g
- **Vibration:** 20 g random
- **Altitude immersion:** 75,000 feet
- **Ingress protection:** IP67

Application Note
Panel Cutouts
See page **B-54** for recommended panel cutout dimensions for float mount connectors.

TABLE 1 HARDWARE OPTIONS

Application Note
Polarization Key Positions
See Mod Code 555 pg. B-8 for details



Application Note
EMI Banding Backshell 799-016
See page **F-32** for backshell ordering information.

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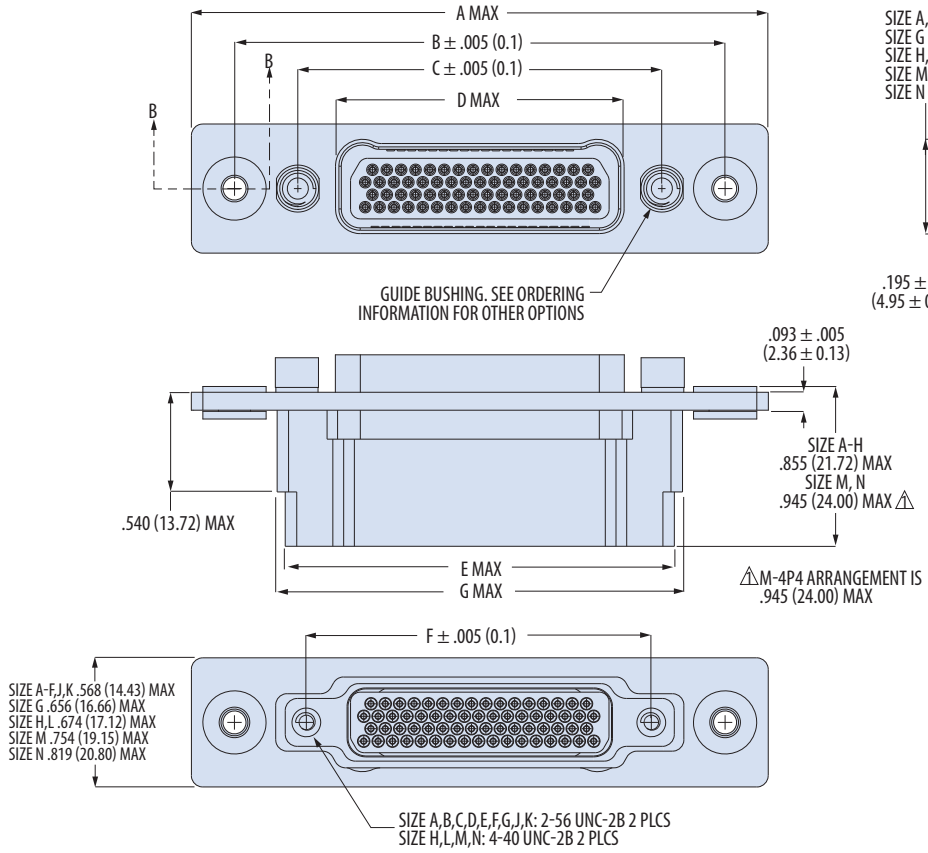
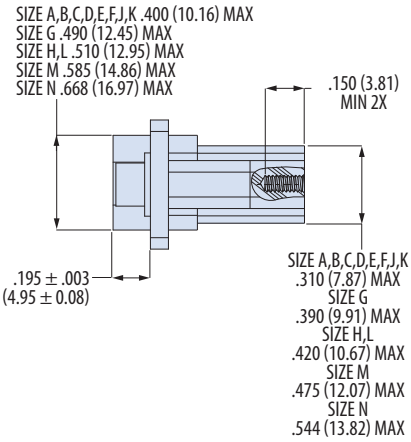
Series 791 Scoop-Proof

791-017

Panel Receptacle, Float Mounting

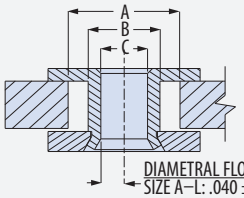
- Crimp, rear-release
- Float mount blind mate
- Pin contacts





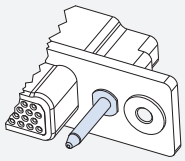
Shell Size	A Max		B ± .005 (0.1)		C ± .005 (0.1)		D Max		E Max		F ± .005 (0.1)		G Max	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
A	1.785	45.3	1.365	34.7	.750	19.1	.490	12.4	.760	19.3	.565	14.4	.965	24.5
B	1.935	49.1	1.515	38.5	.900	22.9	.640	16.3	.910	23.1	.715	18.2	1.115	28.3
C	2.085	53.0	1.665	42.3	1.050	26.7	.790	20.1	1.060	26.9	.865	22.0	1.265	32.1
D	2.160	54.9	1.740	44.2	1.125	28.6	.865	22.0	1.160	29.5	.965	24.5	1.340	34.0
E	2.310	58.7	1.890	48.0	1.275	32.4	1.015	25.8	1.310	33.3	1.115	28.3	1.490	37.8
F	2.460	62.5	2.040	51.8	1.425	36.2	1.165	29.6	1.460	37.1	1.265	32.1	1.640	41.7
G	2.421	61.5	2.003	50.9	1.388	35.3	1.122	28.5	1.410	35.8	1.215	30.9	1.615	41.0
H	3.010	76.5	2.560	65.0	1.900	48.3	1.516	38.5	2.045	51.9	1.800	45.7	2.130	54.1
J	2.835	72.0	2.415	61.3	1.800	45.7	1.540	39.1	1.810	46.0	1.615	41.0	2.015	51.2
K	3.210	81.5	2.790	70.9	2.175	55.2	1.915	48.6	2.210	56.1	2.015	51.2	2.390	60.7
L	3.246	82.4	2.796	71.0	2.136	54.3	1.752	44.5	2.281	57.9	2.036	51.7	2.366	60.1
M	3.442	87.4	2.940	74.7	2.200	55.9	1.815	46.1	2.445	62.1	2.200	55.9	2.470	62.7
N	4.092	103.9	3.500	88.9	2.600	66.0	2.205	56.0	2.645	67.2	2.350	59.7	2.645	67.2

SECTION B–B



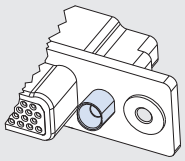
Shell Size	A Max		B		C		Screw Size
	in	mm	in	mm	in	mm	
A-G, J,K	.218	5.5	.138	3.5	.093	2.4	2-56
H, L	.250	6.4	.170	4.3	.120	3.0	4-40
M	.270	6.9	.170	4.3	.120	3.0	4-40
N	.316	8.0	.196	5.0	.146	3.7	6-32

HARDWARE DETAILS



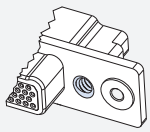
G Guide Pins

Guide pins for blind mate applications. Non-removable. Requires guide bushing (B) on mating plug.



B Guide Bushings

Guide bushings for blind mate applications. Non-removable. Requires guide pins (G) on mating plug.



N No Hardware

Tapped holes. Size A-G, J, K = 6-32, H, L = 8-32, M = 10-32, N = 12-24. .150 (3.8) min. depth

CRIMP CONTACTS AND TOOLS

Contacts are bulk packed with connector. Spare contacts are not included with connector and should be ordered separately if required. See "Contacts and Tools" section for additional information.

Contact Size	Pin Contact Part No.	AWG Wire Size	Installing and Removal Tool	Crimp Tools		
				Tool	Positioner	Die Assembly
23	809-001	22 – 28	809-088	809-015	809-005	—
16	809-110	16 – 20	809-131	809-136	809-137	—
12	809-112	12 – 14	809-132	809-136	809-137	—
8	850-014F	8	859-049	859-025	859-046	859-026

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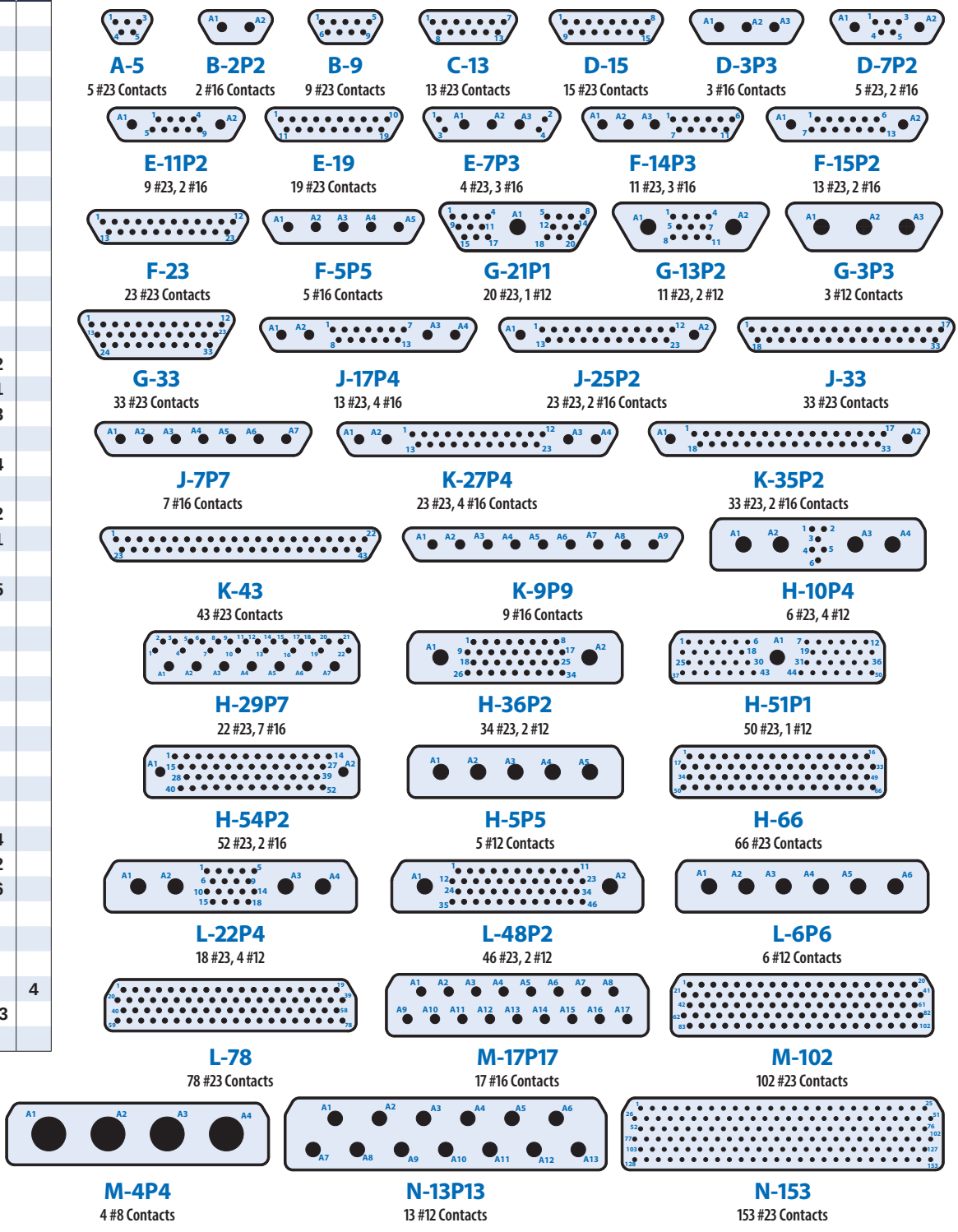
Insert Arrangements

INSERT ARRANGEMENTS

Insert Arr.	No. of Contacts #23	#16	#12	#8
A-5	5			
B-2P2		2		
B-9	9			
C-13	13			
D-15	15			
D-3P3		3		
D-7P2	5	2		
E-11P2	9	2		
E-19	19			
E-7P3	4	3		
F-14P3	11	3		
F-15P2	13	2		
F-23	23			
F-5P5		5		
G-13P2	11		2	
G-21P1	20		1	
G-3P3			3	
G-33	33			
H-10P4	6		4	
H-29P7	22	7		
H-36P2	34		2	
H-51P1	50		1	
H-54P2	52	2		
H-5P5			5	
H-66	66			
J-17P4	13	4		
J-25P2	23	2		
J-33	33			
J-7P7		7		
K-27P4	23	4		
K-35P2	33	2		
K-43	43			
K-9P9		9		
L-22P4	18		4	
L-48P2	46		2	
L-6P6			6	
L-78	78			
M-17P17		17		
M-102	102			
M-4P4				4
N-13P13			13	
N-153	153			

⚠ Cavity Numbers

Cavity numbers shown are for mating face of receptacle (pin) connector. Plug (socket) numbers are reversed.



A-5
5 #23 Contacts

B-2P2
2 #16 Contacts

B-9
9 #23 Contacts

C-13
13 #23 Contacts

D-15
15 #23 Contacts

D-3P3
3 #16 Contacts

D-7P2
5 #23, 2 #16

E-11P2
9 #23, 2 #16

E-19
19 #23 Contacts

E-7P3
4 #23, 3 #16

F-14P3
11 #23, 3 #16

F-15P2
13 #23, 2 #16

F-23
23 #23 Contacts

F-5P5
5 #16 Contacts

G-21P1
20 #23, 1 #12

G-13P2
11 #23, 2 #12

G-3P3
3 #12 Contacts

G-33
33 #23 Contacts

J-17P4
13 #23, 4 #16

J-25P2
23 #23, 2 #16 Contacts

J-33
33 #23 Contacts

J-7P7
7 #16 Contacts

K-27P4
23 #23, 4 #16 Contacts

K-35P2
33 #23, 2 #16 Contacts

K-43
43 #23 Contacts

K-9P9
9 #16 Contacts

H-10P4
6 #23, 4 #12

H-29P7
22 #23, 7 #16

H-36P2
34 #23, 2 #12

H-51P1
50 #23, 1 #12

H-54P2
52 #23, 2 #16

H-5P5
5 #12 Contacts

H-66
66 #23 Contacts

L-22P4
18 #23, 4 #12

L-48P2
46 #23, 2 #12

L-6P6
6 #12 Contacts

L-78
78 #23 Contacts

M-17P17
17 #16 Contacts

M-102
102 #23 Contacts

M-4P4
4 #8 Contacts

N-13P13
13 #12 Contacts

N-153
153 #23 Contacts

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Series 791 Material and Finish Options

The Series 791 Scoop-Proof connector is available in five preferred finishes: electroless nickel, nickel-PTFE, tin-zinc, cadmium, and zinc-nickel.

Additional material and finish options are available. Replace the preferred plating code with the alternate code from the table below.

TIN-ZINC PLATING

The United States Department of Defense (DOD) has mandated the elimination of cadmium from DOD weapons systems because of toxicity concerns. The European Union has also restricted the use of cadmium on electronics equipment (RoHS). Tin-Zinc is a RoHS cadmium-free sacrificial finish that offers high conductivity and shielding performance, corrosion resistance, solderability, and proven compatibility with legacy cadmium and zinc-nickel finishes. Tin-Zinc is DLA-qualified and RoHS compliant.

SERIES 791 SHELL FINISH OPTIONS

	Electroless Nickel	Nickel-PTFE	Tin-Zinc	Olive Drab Cadmium	Black Zinc-Nickel
Glenair Code	M	MT	TZ	N	ZR
Corrosion Resistance	Fair	Excellent	Excellent	Excellent	Excellent
Salt Spray Hours	48	500	500	500	500
Conductivity	Excellent	Excellent	Very Good	Very Good	Very Good
RoHS Compliant[1]	Yes	Yes	Yes	No	Yes

[1] Does not contain cadmium or hexavalent chromium. Meets EU requirements.

ALTERNATE SHELL MATERIAL AND FINISH CODES

Code	Shell Material	Shell Finish	Finish Specification	Salt Spray Hrs.	Electrical Conductivity	RoHS[1]
C	Alum	Anodize, Black	MIL-PRF-8625	48	Non-Conductive	✓
E[2]	Alum	Chem Film, Gold	MIL-DTL-5541	168	Conductive	
J	Alum	Cadmium, Yellow	AMS-QQ-P-416	500	Conductive	
Z1	SST	Passivate	AMS2700	500	Conductive	✓
Z2	Alum	Gold	MIL-DTL-45204	48	Conductive	✓
ZM	SST	Electroless Nickel	AMS-C-26074	500	Conductive	✓
ZMT	SST	Nickel-PTFE	AMS2454	1000	Conductive	✓
ZW	SST	Cadmium, Olive Drab	AMS-QQ-P-416	500	Conductive	
ZZR	SST	Zinc-Nickel, Black	ASTM B841	500	Conductive	✓

[1] Does not contain cadmium or hexavalent chromium. Meets EU requirements.
[2] Maximum temperature = +125°C

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Specifications

Construction

Contacts	Copper alloy, gold over nickel finish
Hood, socket contact	Stainless steel, passivated
Clip, contact retaining	Beryllium copper
Clip, insert retaining	Beryllium copper
Insulators	High performance thermoplastic
Grommet and face seal	Fluorosilicone/silicone blend
Shell	Aluminum
O-ring	Fluorosilicone
EMI spring	Beryllium copper, electroless nickel plated
EMI shroud (90° PCB)	Aluminum
Encapsulant (PCB)	Epoxy
Hardware	Stainless steel, passivated

Ratings

Voltage (DWV)	Size 23 contacts: 750 VAC Size 8, 12 and 16 contacts: 1800 VAC
Current Rating	See table below
Operating Temperature	-65 to +150 °C
Ingress Protection	IP67
Durability	500 mating cycles

Contact Size	Current (A)
#23	5
#16	13
#12	23
#8	46

Product Specifications

Description	Requirement	Procedure
Contact Resistance	SAE AS39029 Table 5	EIA-364-06
Low Level Contact Resistance	SAE AS39029 Table 4	EIA-364-23
Insulation Resistance	5000 megohms minimum	EIA-364-21
Dielectric Withstanding Voltage	#23 contacts 750 volts, #8, 12 & 16 contacts 1800 volts	EIA-364-20
Current Rating	#23: 5A, #16: 13A, #12: 23A, #8: 46A	EIA-364-70 Method 1
Shell-to-shell Resistance	2.5 millivolt drop maximum (connector with EMI spring)	EIA-364-83
Shielding Effectiveness	100 – 1000MHz: >50 dB, 1 – 4GHz: >41dB, 4 – 10GHz: >35 dB	EIA-364-66
Ingress Protection	IP67 rating	IEC-60529
Vibration, Sine	20 g	EIA-364-28 Test Condition IV
Vibration, Random	16.91 g rms	EIA-364-28 Test Condition V Letter E
Mechanical Shock	300 g	EIA-364-27 Condition D
Thermal Shock	-65 to +150 °C	EIA-364-32 Test Condition IV
Humidity	10 Day, +25 to +65° C	EIA-364-31 Method IV, Step 7b vibration deleted
Mechanical Durability	500 mating cycles	EIA-364-09
Salt Spray	Plating code M: 48 hours, MT, ZR, N, TZ: 500 hours	EIA-364-26
Solderability, PC Tail Contacts	95% solder coverage. Smooth, bright and even finish.	EIA-364-52 Category 3, 8 hours steam aging
Resistance To Soldering Heat	260° C, 10 seconds	EIA-364-56
Fluid Immersion	No damage from immersion in various fuels and oils.	EIA-364-10
Altitude Immersion	75,000 feet	EIA-364-03
Contact Retention	MIL-DTL-38999 Table XVIII	EIA-364-29
Contact Separation Force	SAE AS39029 Table 9	EIA-364-37
Magnetic Permeability	2 µ maximum.	EIA-364-54

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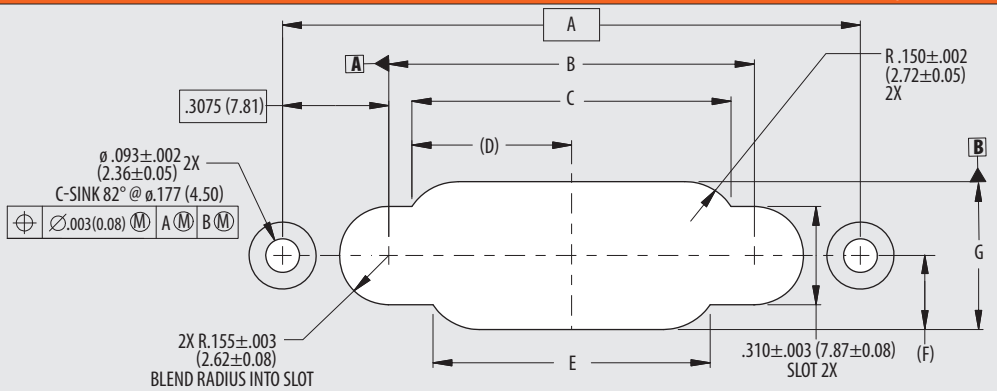
Panel Cutouts, 791 Series, Float Mounting

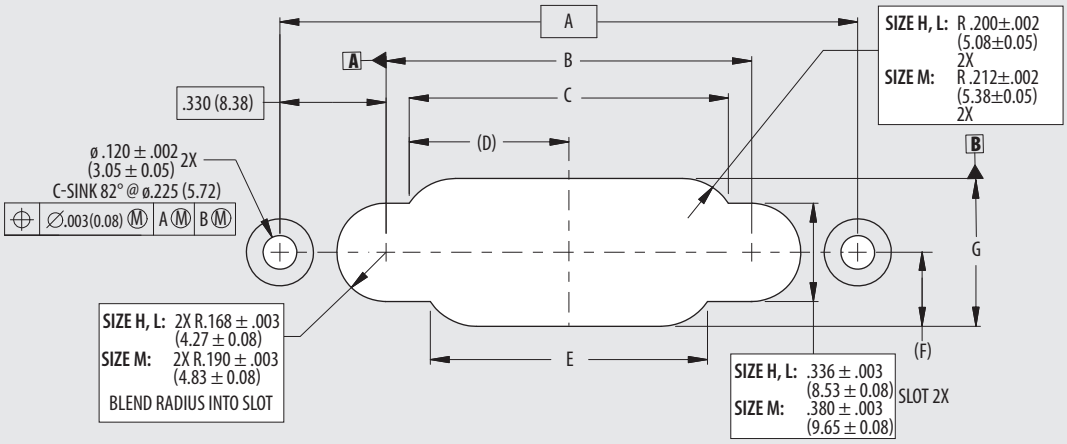
PANEL CUTOUT FOR SERIES 791-017P AND 791-018S FLOAT MOUNT CONNECTOR SIZES A-G, J AND K



PANEL CUTOUT FOR 791-017P AND 791-018S FLOAT MOUNT CONNECTORS
SHELL SIZE A–G, J, AND K

Shell Size	A Basic		B ± .002 (0.05)		C		D		E		F		G ± .002 (0.05)	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
A	1.365	34.67	.750	19.05	.571	14.50	.2855	7.25	.507	12.88	.239	6.07	.498	12.65
B	1.515	38.48	.900	22.86	.721	18.31	.3605	9.16	.657	16.69	.239	6.07	.498	12.65
C	1.665	42.29	1.050	26.67	.871	22.12	.4355	11.06	.807	20.50	.239	6.07	.498	12.65
D	1.740	44.20	1.125	28.58	.946	24.03	.473	12.01	.882	22.40	.239	6.07	.498	12.65
E	1.890	48.01	1.275	32.39	1.096	27.84	.548	13.92	1.032	26.21	.239	6.07	.498	12.65
F	2.040	51.82	1.425	36.20	1.246	31.65	.623	15.82	1.182	30.02	.239	6.07	.498	12.65
G	2.003	50.88	1.388	35.26	1.223	31.06	.6115	15.53	1.194	30.33	.283	7.19	.586	14.88
J	2.415	61.34	1.800	45.72	1.621	41.17	.8105	20.59	1.557	39.55	.239	6.07	.498	12.65
K	2.790	70.87	2.175	55.25	1.996	50.70	.998	25.35	1.932	49.07	.239	6.07	.498	12.65

PANEL CUTOUT FOR SERIES 791-017P AND 791-018S FLOAT MOUNT CONNECTOR SIZES H, L, AND M



PANEL CUTOUT FOR 791-017P AND 791-018S FLOAT MOUNT CONNECTORS
SHELL SIZE H, L, M

Shell Size	A Basic		B ± .002 (0.05)		C		D		E		F		G ± .002 (0.05)	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
H	2.560	65.02	1.900	48.26	1.617	41.07	.8085	20.54	1.610	40.89	.300	7.62	.620	15.75
L	2.796	71.02	2.136	54.25	1.853	47.07	.9265	23.53	1.846	46.89	.300	7.62	.620	15.75
M	2.940	74.68	2.200	55.88	1.948	49.48	.974	24.74	1.935	49.15	.340	8.64	.723	18.36

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Series 791 Polarization Keying Option

OPTIONAL POLARIZATION KEYS

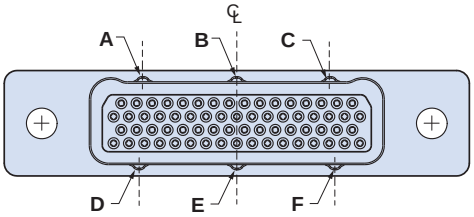
To prevent mis-mating of identical shell size and insert arrangement connectors

Series 791 connectors are available with an integral polarizing key. Keyed plug connectors have a raised boss on the shell. Receptacles have corresponding keyway. Ordering is simple—just add the keying position letter designator to the end of the part number.

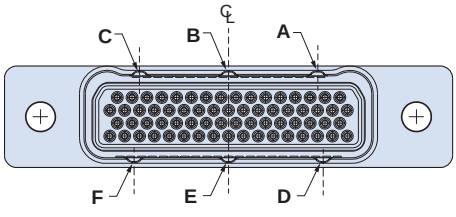
Note: keyed receptacles will mate with unkeyed plugs. Additional polarization keying positions are available, consult the factory for designators and key locations.

HOW TO ORDER		
Step 1	**Create a Series 791 connector part number:**	**791-003SH-66MP**
Step 2	**Add the keying position letter designator A, B, C, D, E, or F to the part number.**	**791-003SH-66MPB**

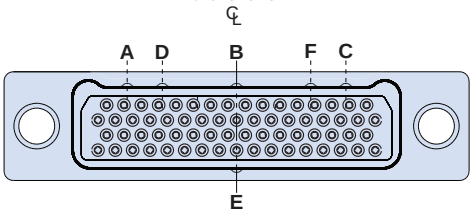
MOD-555 KEY LOCATIONS PLUG CONNECTOR MATING FACE
For Shell Sizes A-M



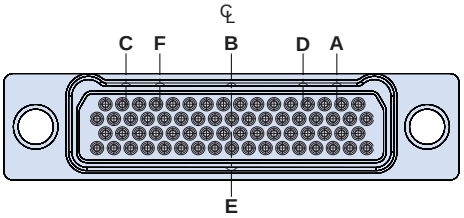
MOD-555 KEY LOCATIONS RECEPTACLE CONNECTOR MATING FACE
For Shell Sizes A-M



MOD-555 KEY LOCATIONS PLUG CONNECTOR MATING FACE
For Shell Size N



MOD-555 KEY LOCATIONS RECEPTACLE CONNECTOR MATING FACE
For Shell Size N



POLARIZING KEY LOCATIONS SHELL SIZES A–M

Shell Size	Key Position Offset From Vertical Centerline											
	Position A		Position B		Position C		Position D		Position E		Position F	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
A	N/A	N/A	.000	0.00	N/A	N/A	.025	0.64	.000	0.00	.025	0.64
B	.090	2.29	.000	0.00	.090	2.29	.050	1.27	.000	0.00	.050	1.27
C	.130	3.30	.000	0.00	.130	3.30	.100	2.54	.000	0.00	.100	2.54
D	.180	4.57	.000	0.00	.180	4.57	.125	3.18	.000	0.00	.125	3.18
E	.200	5.08	.000	0.00	.200	5.08	.150	3.81	.000	0.00	.150	3.81
F	.300	7.62	.000	0.00	.300	7.62	.250	6.35	.000	0.00	.250	6.35
G	.300	7.62	.000	0.00	.300	7.62	.200	5.08	.000	0.00	.200	5.08
H	.450	11.43	.000	0.00	.450	11.43	.500	12.70	.000	0.00	.500	12.70
J	.450	11.43	.000	0.00	.450	11.43	.400	10.16	.000	0.00	.400	10.16
K	.650	16.51	.000	0.00	.650	16.51	.550	13.97	.000	0.00	.550	13.97
L	.550	13.97	.000	0.00	.550	13.97	.600	15.24	.000	0.00	.600	15.24
M	.550	13.97	.000	0.00	.550	13.97	.600	15.24	.000	0.00	.600	15.24
N	.700	17.78	.000	0.00	.700	17.78	.475	12.06	.000	0.00	.475	12.06

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