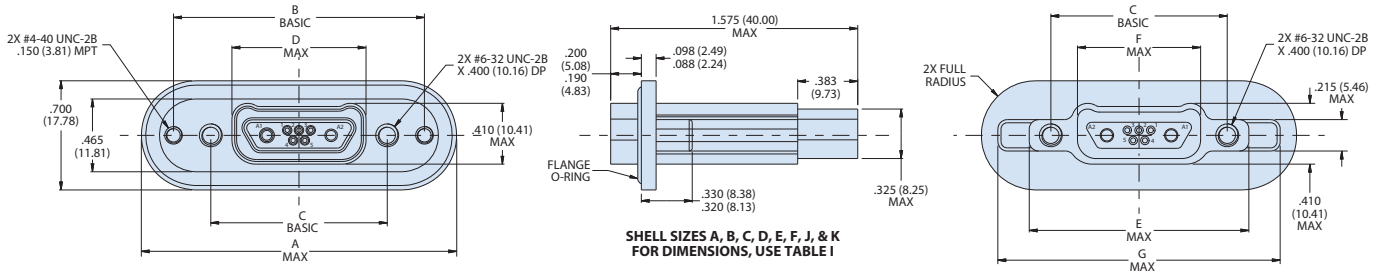
791-070

Rear-Panel Mount Hermetic Feedthrough, Pin - Socket Scoop-Proof

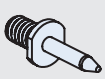
HOW TO ORDER

	Sample Part Number →	791-070	H	D	7P2	N
Basic Part Number	**791-070** Rear-Panel Mount Hermetic Feedthroughs, Pin-Socket Scoop-Proof					
Class	**H** = Hermetic					
Shell Size	**A**, **B**, **C**, **D**, **E**, **F**, **J**, **K**, **G**, **H**, **L** and **M**					
Arrangement	Refer to 799-009 for Insert Arr. (No "W" Option for Hermetic)					
Mating Hardware Option	**N** = No Mating Hardware **P** = Jackpost	**G** = Male Guide Pins **S** = Female Guide Sockets				



Shell Sizes	A Oal	B Basic	C Basic	D Max	E Max	F Max	G Max
A	1.750 (44.45)	1.300 (33.02)	0.750 (19.05)	0.490 (12.45)	0.565 (14.35)	0.410 (10.41)	1.035 (26.29)
B	1.950 (49.53)	1.475 (37.47)	0.900 (22.86)	0.630 (16.00)	0.715 (18.16)	0.560 (14.22)	1.185 (30.10)
C	2.025 (51.43)	1.600 (40.64)	1.050 (26.67)	0.780 (19.81)	0.865 (21.97)	0.710 (18.03)	1.335 (33.91)
D	2.125 (53.97)	1.700 (43.18)	1.125 (28.58)	0.860 (21.84)	0.965 (24.51)	0.785 (19.94)	1.410 (35.81)
E	2.325 (59.06)	1.800 (45.72)	1.275 (32.39)	1.010 (25.65)	1.115 (28.32)	0.935 (23.75)	1.560 (39.62)
F	2.325 (59.06)	1.925 (48.90)	1.425 (36.20)	1.160 (29.46)	1.265 (32.13)	1.085 (27.56)	1.710 (43.43)
J	2.915 (74.04)	2.400 (60.96)	1.800 (45.72)	1.530 (38.86)	1.615 (41.02)	1.460 (37.08)	2.085 (52.96)
K	3.110 (78.99)	2.675 (67.94)	2.175 (55.24)	1.910 (48.51)	2.015 (51.18)	1.835 (46.61)	2.460 (62.48)

MOUNTING HARDWARE

P Jackpost 	Connector supplied with non-removable jackpost. Shell size "M" has 8-32 UNC-2B thread. Shell sizes "H" And "L" have 6-32 UNC-2B thread. All other sizes Have 4-40 UNC-2B thread.
G Guide Pin 	Connector supplied with non-removable guide pins for blind mate applications. Mates with option "S" guide socket on corresponding plug connector.
S Guide Socket 	Connector supplied with non-removable guide sockets for blind mate applications. Mates with option "G" guide pin on corresponding plug connector.

RATINGS

- **Test Criteria:** Hermeticity - <1 X 10-7 sccHe/Sec @ 1 Atm. Delta
- **D.W.V.**
  #23 Pins: 500 VAC Pin-to-Shell
  #16 Pins: 1200 VAC Pin-to-Shell
  #12 Pins: 1200 VAC Pin-to-Shell
  # 8 Pins: 1000 VAC Pin-to-Shell
  I.R. - 5,000 megohms minimum @ 500 Vdc
- **Glenair 791-070** will mate with any scoop-proof Series 79 plug and receptacle with same shell and insert.

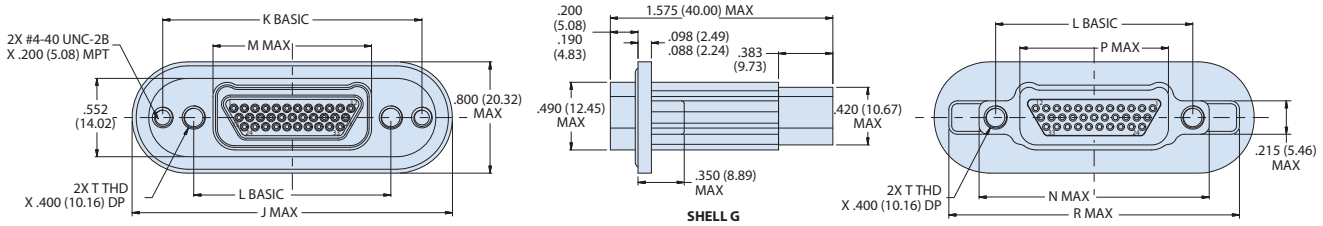
CONSTRUCTION

- **Shell:** Kovar Alloy / Nickel Plate
- **Contacts, Hermetic:** Kovar Alloy / Gold Plate
- **Contacts, Sockets:** Copper Alloy / Gold Plate
- **Insulator, Hermetic:** Vitreous Glass
- **Insulator, Socket:** Rigid Dielectric
- **Seals, O-Ring:** Fluorosilicone
- **Mating Hardware:** CRES / Passivated

791-070

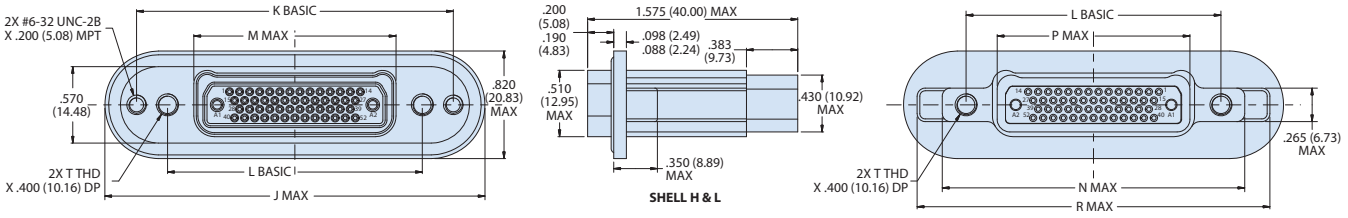
Rear-Panel Mount Hermetic Feedthrough, Pin - Socket Scoop-Proof

SHELL SIZE G



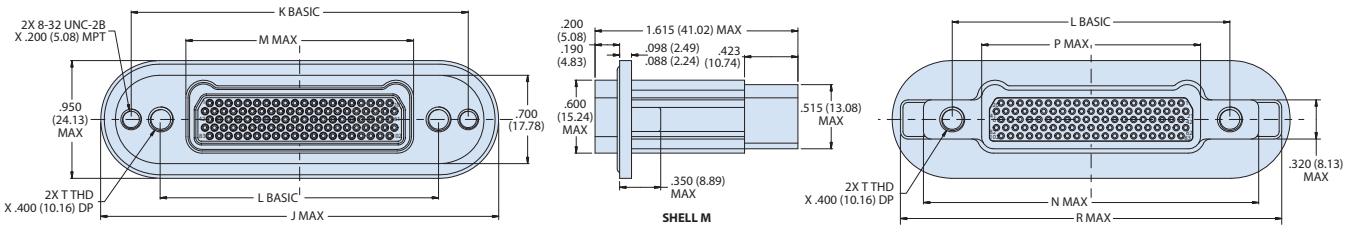
Shell Size	J Oal	K Basic	L Basic	M Max	N Max	P Max	R Max	S Basic	T Typ Unc 2-B
G	2.500 (63.50)	2.000 (50.80)	1.388 (35.26)	1.120 (28.45)	1.675 (42.55)	1.060 (26.92)	2.250 (57.15)	1.215 (30.86)	#6-32

SHELL SIZE H & L



Shell Size	J Oal	K Basic	L Basic	M Max	N Max	P Max	R Max	S Basic	T Typ Unc 2-B
H	3.050 (77.47)	2.500 (63.50)	1.900 (48.26)	1.510 (38.35)	2.275 (57.79)	1.442 (36.63)	2.850 (72.39)	1.800 (45.72)	#8-32
L	3.250 (82.55)	2.700 (68.58)	2.136 (54.25)	1.740 (44.20)	2.515 (63.88)	1.678 (42.62)	3.100 (78.74)	2.036 (51.71)	#8-32

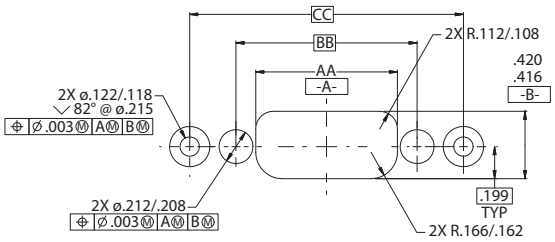
SHELL SIZE M



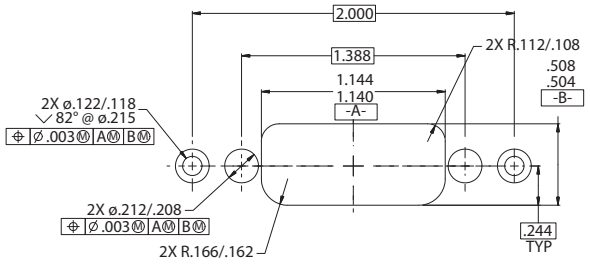
Shell Size	J Oal	K Basic	L Basic	M Max	N Max	P Max	R Max	S Basic	T Typ Unc 2-B
M	3.375 (85.73)	2.870 (72.90)	2.200 (55.88)	1.800 (45.72)	2.580 (65.53)	1.745 (44.32)	3.200 (81.28)	2.200 (55.88)	#10-32

791-070

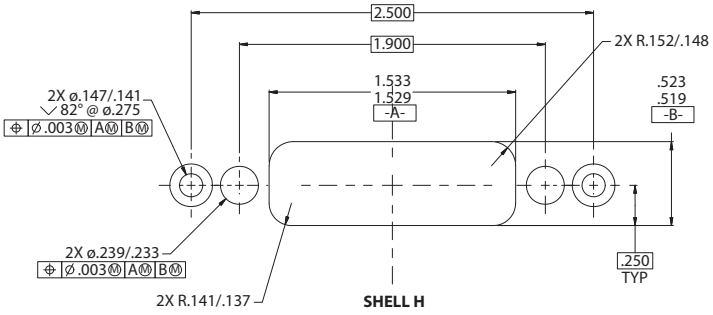
Rear-Panel Mount Hermetic Feedthrough, Pin - Socket Scoop-Proof



SHELL SIZES A, B, C, D, E, F, J, & K
FOR DIMENSIONS, USE TABLE IV

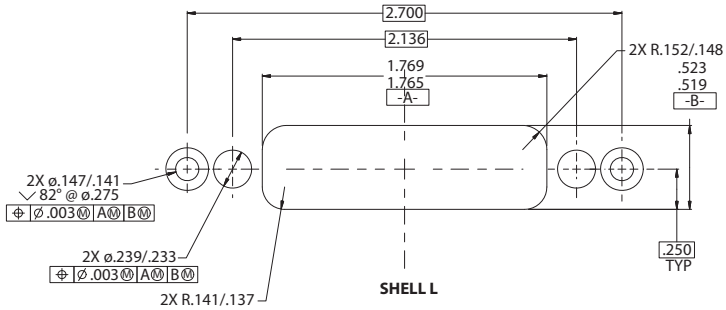


SHELL G

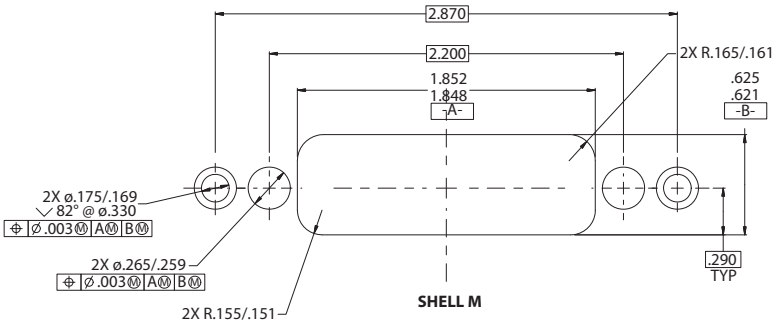


SHELL H

TABLE III			
Shell Size	AA ±.002	BB Basic	CC Basic
A	0.505 (12.83)	0.750 (19.05)	1.300 (33.02)
B	0.655 (16.64)	0.900 (22.86)	1.475 (37.47)
C	0.805 (20.45)	1.050 (26.67)	1.600 (40.64)
D	0.880 (22.35)	1.125 (28.58)	1.700 (43.18)
E	1.030 (26.16)	1.275 (32.39)	1.800 (45.72)
F	1.180 (29.97)	1.425 (36.20)	1.925 (48.90)
J	1.555 (39.50)	1.800 (45.72)	2.400 (60.96)
K	1.930 (49.02)	2.175 (55.24)	2.675 (67.94)



SHELL L



SHELL M

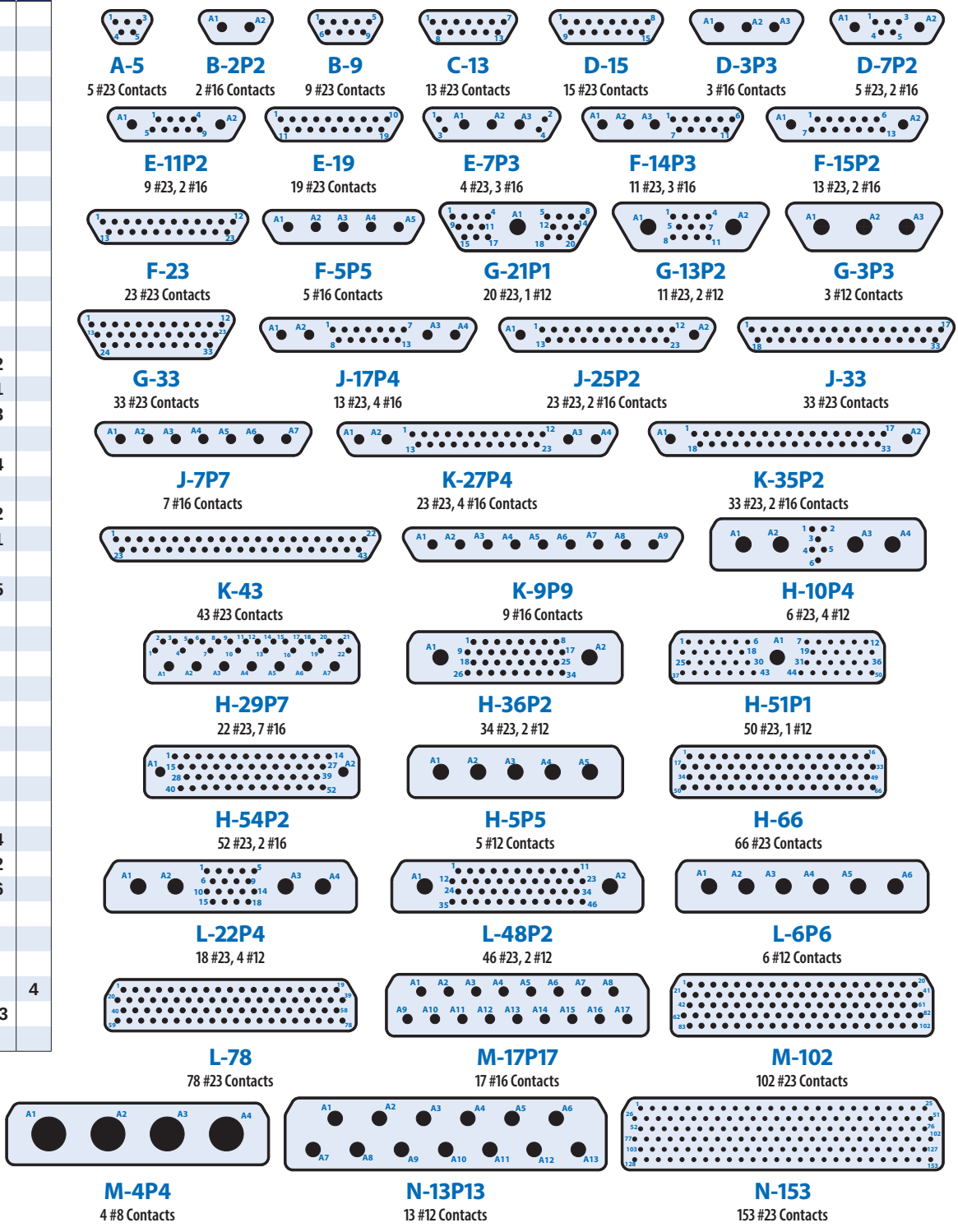
Insert Arrangements

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

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

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

Series 791 Polarization Keying Option

OPTIONAL POLARIZATION KEYS

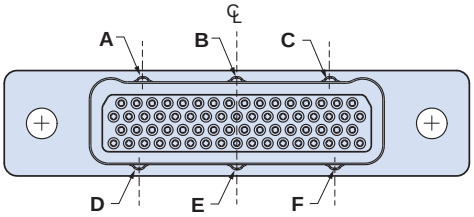
To prevent mis-mating of identical shell size and insert arrangement connectors

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.

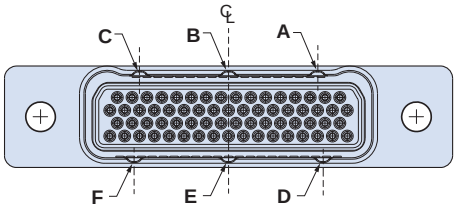
Note: keyed receptacles will mate with unkeyed plugs. Additional polarization keying positions are available, consult the factory for designators and key locations.

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**

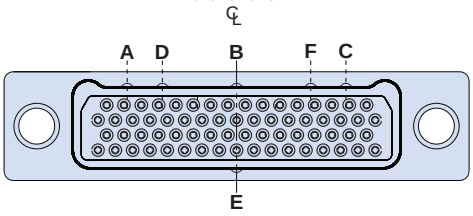
MOD-555 KEY LOCATIONS PLUG CONNECTOR MATING FACE
For Shell Sizes A-M



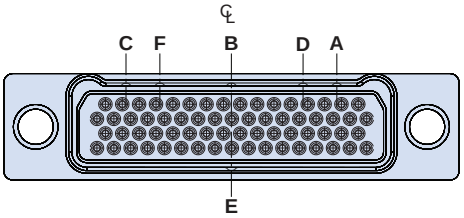
MOD-555 KEY LOCATIONS RECEPTACLE CONNECTOR MATING FACE
For Shell Sizes A-M



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