

MICRO-CRIMP RECTANGULAR CONNECTORS

Series 791 Scoop-Proof



240-791-007

Panel Plug, Filtered

- ◆ Solder cup termination
- ◆ Socket contacts



240-791-007 rear panel mount plug has ceramic filter array to attenuate unwanted signals. Solder cup contacts. Available with two filter types (C, Pi) and 11 filter classes ranging from 35 pF to 240K pF. O-ring provides ingress protection. Machined aluminum shell has rear threads for attaching EMI banding adapter (799-016, sold separately).

- Aerospace-grade filter connector with scoop-proof duo-lobe shell
- Ceramic planar array filter element
- 39 insert arrangements with M39029-type contacts
- Environmental

INSERT ARRANGEMENTS			
Insert Arrangement	No. of Contacts		
	#23	#16	#12
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		

HOW TO ORDER									
Sample Part Number			240-791-007S	J-33	ME	C	C	P	B
Basic Part Number	240-791-007S	Panel Plug, Filtered, Socket Contacts							
Shell Size-Insert Arr.	See “ <i>Insert Arrangements</i> ” Table								
Shell Finish	<u>ME</u> Electroless Nickel								
	<u>MT</u> Nickel / PTFE								
	<u>NF</u> Olive Drab Cadmium								
	<u>TZ</u> Tin-Zinc								
	<u>ZR</u> Black Zinc-Nickel								
Filter Type	<u>C</u> C Circuit								
	<u>P</u> Pi Circuit								
Filter Capacitance Class	See “Filter <i>Capacitance Class</i> ” Table								
Hardware Option	<u>N</u> No Hardware <u>Threaded holes</u>								
	<u>P</u> Female Jackposts								
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								

FILTER CLASS		
Filter Class	Capacitance Range (pF)	
	Filter Type P	Filter Type C
X*†	160,000-240,000	80,000-120,000
Y*	80,000-120,000	40,000-60,000
Z*	60,000-90,000	30,000-45,000
A	38,000-56,000	19,000-28,000
B	32,000-45,000	16,000-22,500
C	18,000-33,000	9,000-16,500
D	8,000-12,000	4,000-6,000
E	3,300-5,000	1,650-2,500
F	800-1,300	400-650
G	400-600	200-300
J	70-120	35-60

* Filter classes X, Y and Z are 250 VDC. All others are 500 VDC.
 † Class X filters not available for arrangements with 3 or more rows of contacts.

RATINGS	
■	Voltage (DWV): 500 VDC. Class X, Y, Z: 250 VDC.
■	Current rating for arrangements with all contacts the same size: #23 5A, #16 13A, #12 23A
■	Current rating f or arrangements with mixed contact sizes: #23 5A, #16 7.5A, #12 13A
■	Operating temperature: -55 to +125 °C
■	Durability: 500 mating cycles
■	Shock: 300 g
■	Vibration: 20 g random
■	Insulation resistance: 5000 megohm @ 200 VDC. Class X, Y, Z: 1000 megohm @ 83 VDC

CONSTRUCTION	
■	Contacts: Copper alloy, gold over nickel finish
■	Shell: Aluminum
■	Insulators: High performance dielectric
■	O-ring: Fluorosilicone
■	Hardware: Stainless steel

MICRO-CRIMP RECTANGULAR CONNECTORS

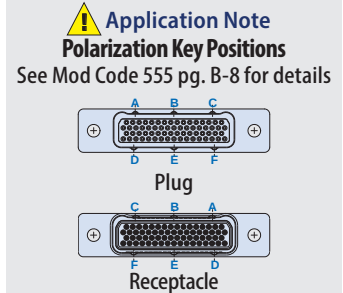
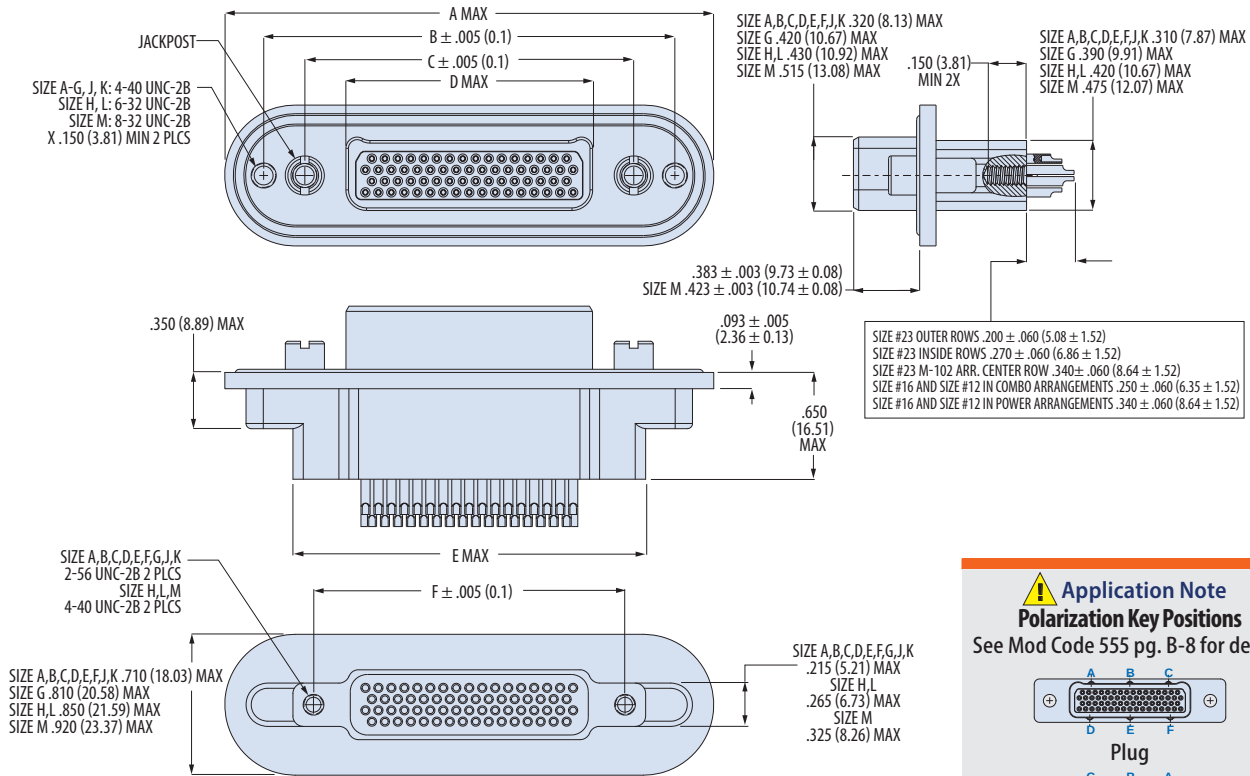
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SERIES™
791
Scoop-Proof

240-791-007

Panel Plug, Filtered

- ◆ Solder cup termination
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HARDWARE DETAILS	
N No Hardware Tapped holes. Size A-G, J, K = 6-32 UNC-2B H, L = 8-32 UNC-2B M = 10-32 UNF-2B 150 (3.8) min. depth	P Female Jackposts Jackposts are non-removable. Size A-G, J, K = 4-40 UNC-2B H, L = 6-32 UNC-2B M = 8-32 UNC-2B

Application Note
Panel Cutout
See page B-53 for panel cutout dimensions.

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

Shell Size	A Max		B ± .005 (0.1)		C ± .005 (0.1)		D Max		E Max		F ± .005 (0.1)	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
A	1.565	39.8	1.150	29.2	.750	19.1	.415	10.5	.760	19.3	.565	14.4
B	1.715	43.6	1.300	33.0	.900	22.9	.565	14.4	.910	23.1	.715	18.2
C	1.865	47.4	1.450	36.8	1.050	26.7	.715	18.2	1.060	26.9	.865	22.0
D	1.940	49.3	1.525	38.7	1.125	28.6	.790	20.1	1.160	29.5	.965	24.5
E	2.090	53.1	1.675	42.5	1.275	32.4	.940	23.9	1.310	33.3	1.115	28.3
F	2.240	56.9	1.825	46.4	1.425	36.2	1.090	27.7	1.460	37.1	1.265	32.1
G	2.200	55.9	1.785	45.3	1.388	35.3	1.052	26.7	1.410	35.8	1.215	30.9
H	2.835	72.0	2.375	60.3	1.900	48.3	1.442	36.6	2.045	51.9	1.800	45.7
J	2.615	66.4	2.200	55.9	1.800	45.7	1.465	37.2	1.810	46.0	1.615	41.0
K	2.990	75.9	2.575	65.4	2.175	55.2	1.840	46.7	2.210	56.1	2.015	51.2
L	3.075	78.1	2.611	66.3	2.136	54.3	1.678	42.6	2.281	57.9	2.036	51.7
M	3.345	85.0	2.824	71.7	2.200	55.9	1.745	44.3	2.445	62.1	2.200	55.9

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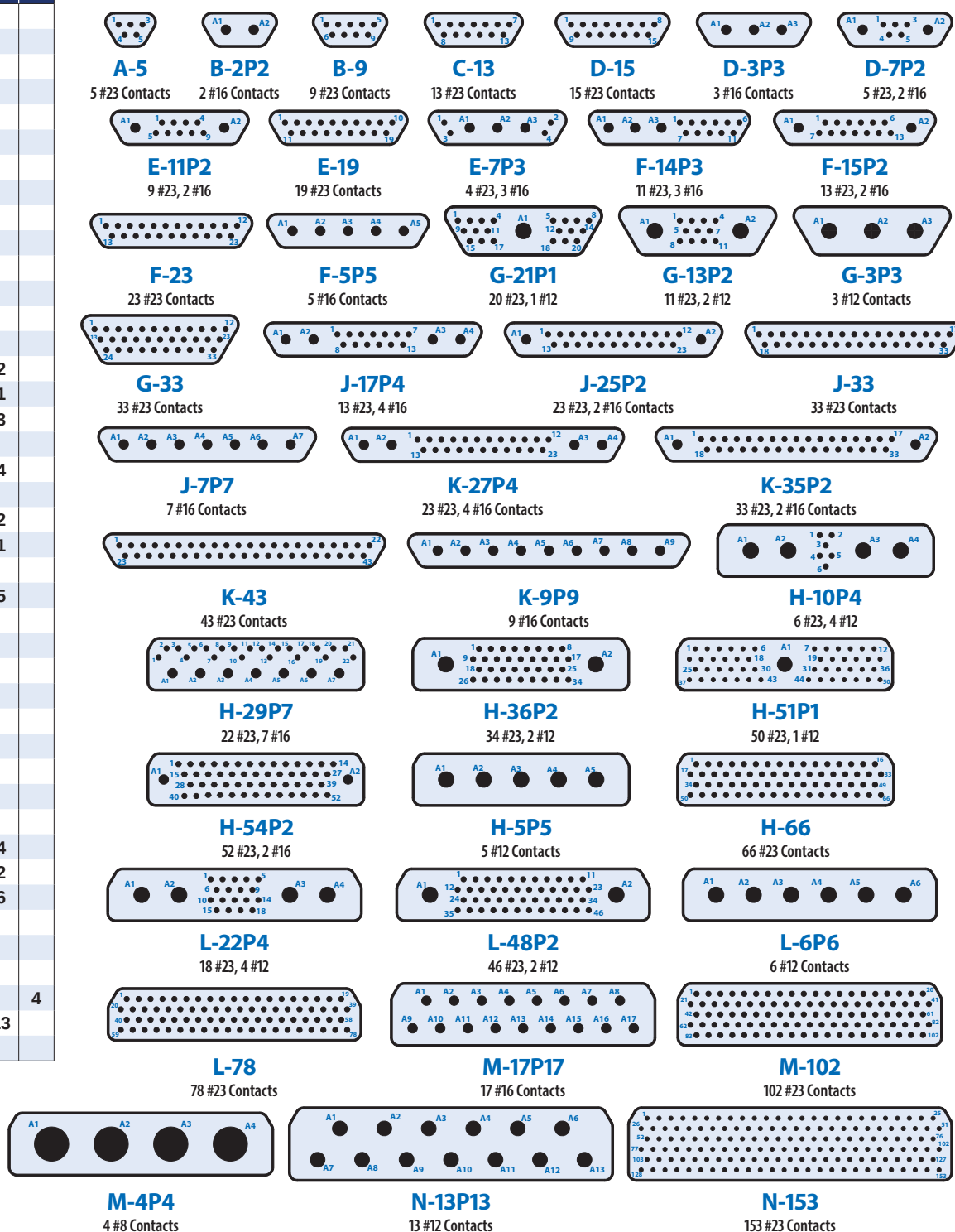


Insert Arrangements

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.



MICRO-CRIMP RECTANGULAR CONNECTORS

Series 791 Scoop-Proof



Series 791 Material and Finish Options

SERIES 791 SCOOP-PROOF

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 79 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

SERIES 791 SCOOP-PROOF

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	Contact Size	Current (A)
	#23	5
	#16	13
	#12	23
	#8	46
Operating Temperature	-65 to +150 °C	
Ingress Protection	IP67	
Durability	500 mating cycles	

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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Series 791 Polarization Keying Option

OPTIONAL POLARIZATION KEYS



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

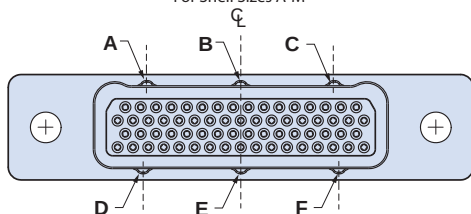
Series 791 connectors are available with an integral polarizing key. Keyed plug connectors have a raised boss on the shell. Receptacles have corresponding keyway. Ordering is simple—just add the keying position letter designator to the end of the part number.

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

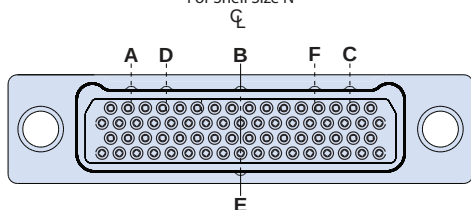
HOW TO ORDER

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-66MP B

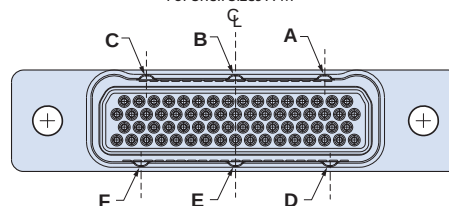
MOD-555 KEY LOCATIONS PLUG CONNECTOR MATING FACE
For Shell Sizes A-M



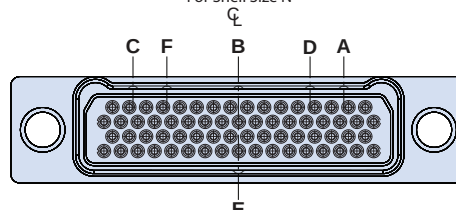
MOD-555 KEY LOCATIONS PLUG CONNECTOR MATING FACE
For Shell Size N



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



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