

MICRO-CRIMP RECTANGULAR CONNECTORS

Series 792 High-Speed

SERIES™
792
High-Speed

792-012

Panel Receptacle, 90° PC Tails, El Ochito®

- ◆ Octaxial PC tail contacts
- ◆ 90° mounting
- ◆ Pin contacts



792-012 panel receptacle has El Ochito® high-speed octaxial PC tail socket contacts for 90° thru-hole printed circuit board termination. Contacts are potted with epoxy. Machined aluminum shell has integral standoff and threaded holes for attachment to PC board. Combo arrangements have #23 contacts.

- Aerospace-grade rectangular PCB connector with high speed size 8 octaxial contacts
- 1–5 data ports
- Rugged duo-lobe aluminum shell
- Environmental

INSERT ARRANGEMENTS			
Thermoplastic Insert	Grounded All-Aluminum	No. of Contacts	
		Ochito	#23
A-1P1	A-1G1	1	–
A-3P1		1	2
B-23P1		1	22
B-2P2	B-2G2	2	–
B-6P2		2	4
C-24P2		2	22
C-3P3	C-3G3	3	–
C-9P3		3	6
D-27P3		3	24
D-4P4	D-4G4	4	–
D-12P4		4	8
E-5P5	E-5G5	5	–
E-15P5		5	10
E-45P3		3	42

HOW TO ORDER									
Sample Part Number		792-012P	B-23P1	M	E	P	AA	C	B
Basic Part Number	792-012P		Panel Receptacle, 90° PC Tails, Octaxial Pin Contacts						
Shell Size-Insert Arr.	See “Insert Arrangements” Table								
Shell Finish	M		Electroless Nickel						
	MT		Nickel / PTFE						
	NF		Olive Drab Cadmium						
	TZ		Tin-Zinc						
	ZR		Black Zinc-Nickel						
EMI Spring	E		EMI Spring						
	N		No EMI Spring						
Hardware Option Table 1	N		No Hardware <i>Threaded holes</i>						
	P		Female Jackposts						
	B		Guide Bushing <i>For blind mating</i>						
Protocol Code	See “Protocol Code” table on next page								
Panel O-Ring	N		No O-ring						
	C		Conductive Fluorosilicone O-ring						
	F		Fluorosilicone O-ring						
Polarization Key Option	Enter Letter Designator for Position A, B, C, D, E, F, G, H, J, or K per Mod Code 1104 (see page C-8 for details) Omit for none								

TABLE 1 HARDWARE OPTION					
N No Hardware Threaded Hole 10-32 UNF-2B .150 (3.81) min. depth		P Female Jackpost #8-32 UNC-2B		B Guide Bushing	

RATINGS
■ Voltage (DWV): 100 VAC ■ Current: #23 1A ■ Operating temperature: -65 to +150 °C ■ Durability: 500 mating cycles ■ Shock: 300 g ■ Vibration: 20 g random

CONSTRUCTION
■ #23 Contacts: Copper alloy, gold over nickel finish ■ Ochito contact: Copper alloy, gold over nickel finish. Insulators are high performance thermoplastic. Ochito white has nickel-plated copper alloy splines. ■ Shell: Aluminum ■ Insulator: High performance thermoplastic ■ Face seal: Fluorosilicone/silicone blend ■ Encapsulant: Epoxy ■ Hardware: Stainless steel, passivated

Application Note
Polarization Key Positions
See Mod Code 1104 pg. C-8 for details

Plug Receptacle

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OCHITO PROTOCOLS



WHITE
1000BASE-T
10GBASE-T



BLUE
USB 3.0



RED
HDMI, SATA,
DisplayPort

The Ochito octaxial contact is color-coded to signify the data protocol. White is used for high speed Ethernet, blue is used for USB 3.0, and red is used for multi gigabit 100 ohm protocols including HDMI, DisplayPort and SATA. The connector part number includes a code from the *Protocol Code* table. This code enables combinations of protocols as shown in the examples below.



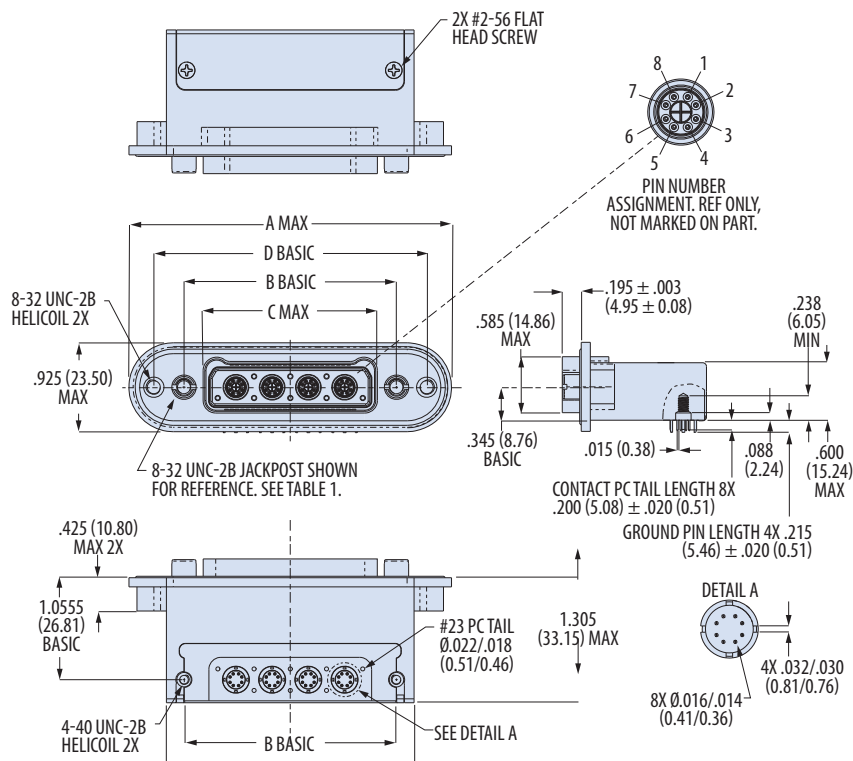
Code AA



Code AH

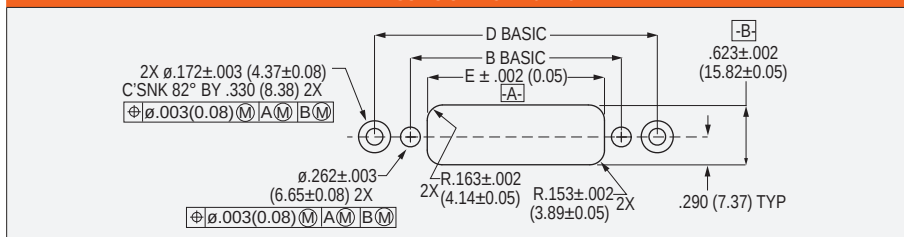
PROTOCOL CODE

Code	Cavity				
	A1	A2	A3	A4	A5
AA	W	W	W	W	W
AB	B	W	W	W	W
AC	R	W	W	W	W
AD	B	B	W	W	W
AE	R	B	W	W	W
AF	R	R	W	W	W
AG	B	B	B	W	W
AH	R	B	B	W	W
AJ	R	R	B	W	W
AK	R	R	R	W	W
AL	B	B	B	B	W
AM	R	B	B	B	W
AN	R	R	B	B	W
AP	R	R	R	B	W
AQ	R	R	R	R	W
AR	B	B	B	B	B
AS	R	B	B	B	B
AT	R	R	B	B	B
AV	R	R	R	B	B
AW	R	R	R	R	B
AX	R	R	R	R	R



Shell Size	A Max		B ± .005 (0.1)		C Max		D ± .005 (0.1)		E ± .002 (0.05)		F Max	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
A	2.220	56.39	1.075	27.31	.690	17.53	1.699	43.15	.725	18.42	1.455	36.96
B	2.595	65.91	1.450	36.83	1.065	27.05	2.074	52.68	1.100	27.94	1.830	46.82
C	2.970	75.44	1.825	46.36	1.440	36.58	2.449	62.20	1.475	37.47	2.205	56.01
D	3.345	84.96	2.200	55.88	1.815	46.10	2.824	71.73	1.850	46.99	2.580	65.53
E	3.720	94.49	2.575	65.41	2.190	55.62	3.199	81.25	2.225	56.52	2.955	75.06

PANEL CUTOUT FOR 792-012



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- ◆ 90° mounting
- ◆ Pin contacts

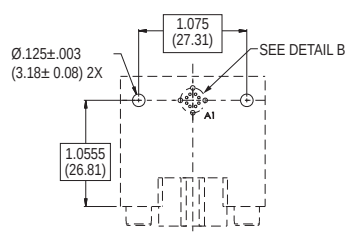
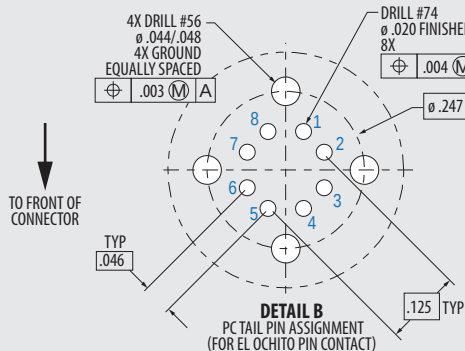
PCB FOOTPRINTS FOR 792-012 CONNECTOR

⚠ Optimizing PCB Design

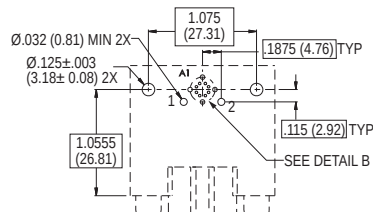
See Glenair Application Note AN0002 *Design and Installation of El Ochito PCB Connectors* for recommended solder pad sizing, trace routing, and connector installation.
<https://cdn.glenair.com/test-reports-and-technical-information/pdf/application-note/an0002.pdf>

⚠ PCB hole patterns are shown for the **component mounting side** of the circuit board, looking through the connector.

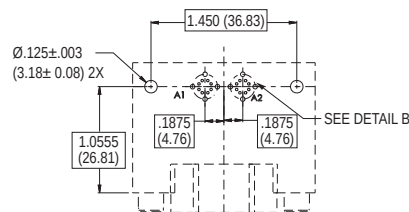
Detail B



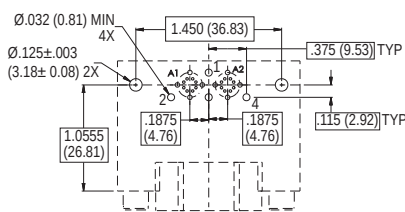
A-1P1 A-1G1



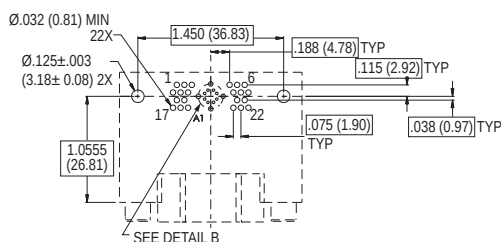
A-3P1



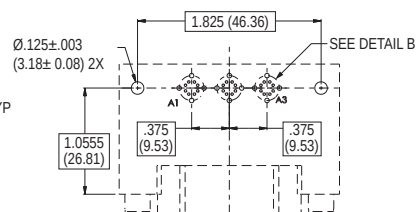
B-2P2 B-2G2



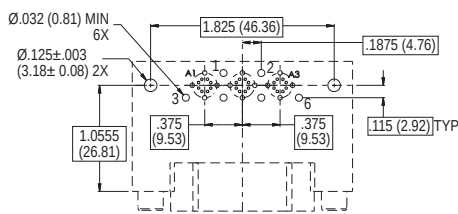
B-6P2



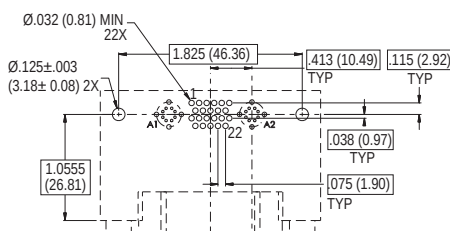
B-23P1



C-3P3 C-3G3



C-9P3



C-24P2

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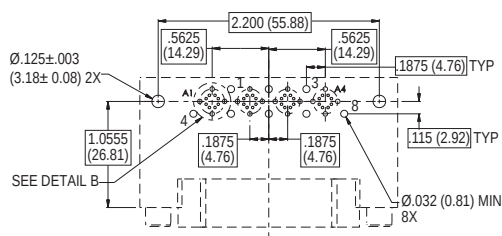


792-012

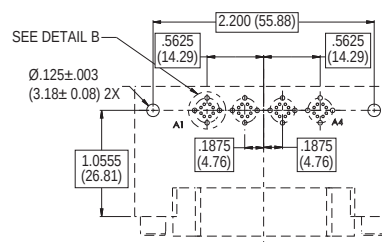
Panel Receptacle, 90° PC Tails, El Ochito®

- ◆ Octaxial PC tail contacts
- ◆ 90° mounting
- ◆ Pin contacts

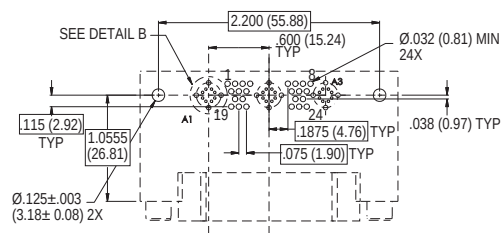
PCB FOOTPRINTS FOR 792-012 CONNECTOR



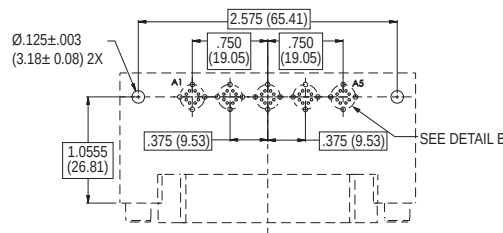
D-12P4



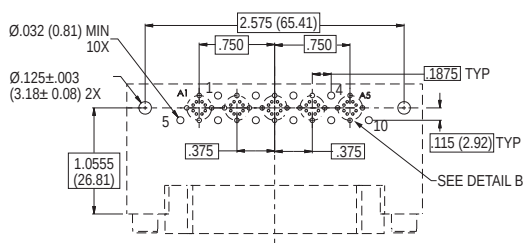
D-4P4 D-4G4



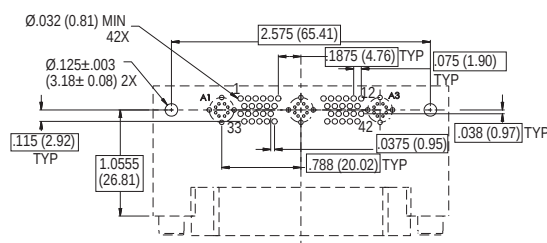
D-27P3



E-5P5 E-5G5



E-15P5



E-45P3

SERIES 792 HIGH-SPEED

MICRO-CRIMP RECTANGULAR CONNECTORS

Series 792 High-Speed



Series 792 Insert Arrangements

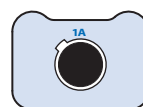
SERIES 792 INSERT ARRANGEMENTS

Thermoplastic Insert	Grounded All-Aluminum	No. of Contacts	
		#8	#23
A-1W1	A-1G1	1	—
A-3W1		1	2
B-23W1		1	22
B-2W2	B-2G2	2	—
B-6W2		2	4
C-24W2		2	22
C-3W3	3G3	3	—
C-9W3		3	6
D-27W3		3	24
D-4W4	D-4G4	4	—
D-12W4		4	8
E-5W5	E-5G5	5	—
E-15W5		5	10
E-45W3		3	42
F-9W9	F-9G9	9	—
F-31W9		9	22

Grounded Insert Arrangements

Series 792 connectors are available with thermoplastic inserts ("A-1W1" for example), or with all-aluminum construction for grounding datalink contacts together with the connector shell ("A-1G1").

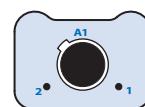
⚠ Cavity Numbers
Cavity numbers shown are for mating face of plug (socket) connector. Receptacle (pin) numbers are reversed.



1 #8

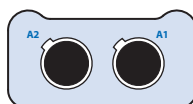
A-1W1

A-1G1 Grounded



1 #8, 2 #23

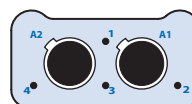
A-3W1



2 #8

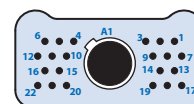
B-2W2

B-2G2 Grounded



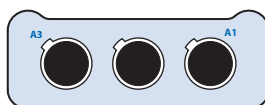
2 #8, 4 #23

B-6W2



1 #8, 22 #23

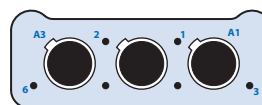
B-23W1



3 #8

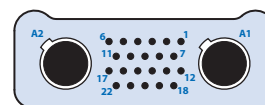
C-3W3

C-3G3 Grounded



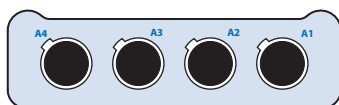
3 #8, 6 #23

C-9W3



2 #8, 22 #23

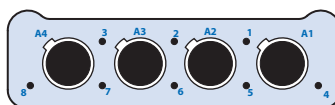
C-24W2



4 #8

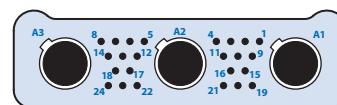
D-4W4

D-4G4 Grounded



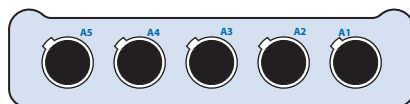
4 #8, 8 #23

D-12W4



3 #8, 24 #23

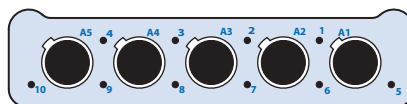
D-27W3



5 #8

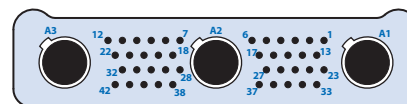
E-5W5

E-5G5 Grounded



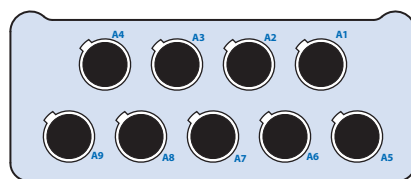
5 #8, 10 #23

E-15W5



3 #8, 42 #23

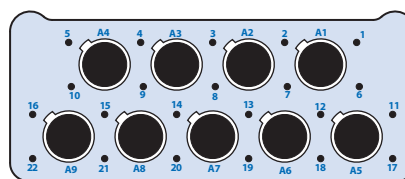
E-45W3



9 #8

F-9W9

F-9G9 Grounded



9 #8, 22 #23

F-31W9

MICRO-CRIMP RECTANGULAR CONNECTORS

Series 792 High-Speed



Series 792 Material and Finish Options

SERIES 792 HIGH-SPEED

The Series 792 High-Speed 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 PREFERRED 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
Temperature Range	-65 to +200 °C	-65 to +175 °C	-65 to +175 °C	-65 to +175 °C	-65 to +175 °C
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

MICRO-CRIMP RECTANGULAR CONNECTORS

Series 792 High-Speed



Specifications

SERIES 792 HIGH-SPEED

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 Datalink contact outer body to shell: 1800 VAC (ungrounded insert) Quadax and Ochito inner contact: 500 VAC
Current Rating	Size 23 contacts: 5 amps
Operating Temperature	-65 to +150 °C
Durability	500 mating cycles
Datalink differential Impedance (nom.)	Quadax: 100 ohms Ochito white, red: 100 ohms Ochito blue: 90 ohms

PRODUCT SPECIFICATIONS

Description	Requirement	Procedure
Contact Resistance	SAE AS39029 Table V	EIA-364-06
Low Level Contact Resistance	SAE AS39029 Table IV	EIA-364-23
Insulation Resistance	5000 megohms minimum	EIA-364-21
Dielectric Withstanding Voltage	#23 contacts 750 volts	EIA-364-20
Current Rating	#23: 5A	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: >75 dB, 1 – 4GHz: >60dB, 4 – 10GHz: >40dB	EIA-364-66
Vibration, Sine	20 g	EIA-364-28 Test Condition IV
Vibration, Random	16.91 g rms	EIA-364-28 Test Condition VI Letter J
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 (PCB)	260° C, 10 seconds	EIA-364-56
Fluid Immersion	No damage from immersion in various fuels and oils.	EIA-364-10
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

MICRO-CRIMP RECTANGULAR CONNECTORS

Series 792 High-Speed



Series 792 Polarization Keying Option

OPTIONAL POLARIZATION KEYS



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

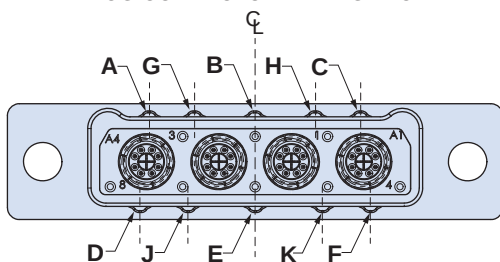
Series 792 connectors are available with an integral polarizing key. Keyed plug connectors have a raised boss on the shell. Receptacles have corresponding keyway. Ordering is simple—just add the keying position letter designator to the end of the part number.

Note: keyed receptacles will mate with unkeyed plugs.

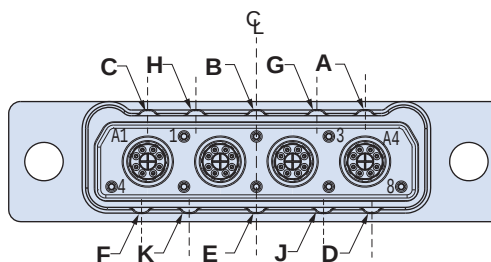
HOW TO ORDER

Step 1	Create a Series 792 connector part number:	792-001SD-4G4MS
Step 2	Add the keying position letter designator A, B, C, D, E, F, G, H, J, or K to the part number.	792-001SD-4G4MS <u>B</u>

MOD-1104 POLARIZING KEY LOCATIONS
PLUG CONNECTOR MATING FACE



MOD-1104 POLARIZING KEY LOCATIONS
RECEPTACLE CONNECTOR MATING FACE



KEY LOCATIONS

Key Position Offset From Vertical Centerline

Shell Size	Position A		Position B		Position C		Position D		Position E		Position F		Position G		Position H		Position J		Position K	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
A	.025	0.64	.000	.00	.025	0.64	.100	2.54	.000	.00	.100	2.54	POSITIONS G, H, J AND K ARE NOT AVAILABLE FOR SHELL SIZES A, B AND C							
B	.200	2.29	.000	.00	.200	2.29	.325	8.26	.000	.00	.325	8.26								
C	.375	9.53	.000	.00	.375	9.53	.500	12.70	.000	.00	.500	12.70								
D	.550	13.97	.000	.00	.550	13.97	.600	15.24	.000	.00	.600	15.24	.315	8.00	.315	8.00	.350	8.89	.350	8.89
E	.700	17.78	.000	.00	.700	17.78	.750	19.05	.000	.00	.750	19.05	.315	8.00	.315	8.00	.350	8.89	.350	8.89
F	.700	17.78	.000	.00	.700	17.78	.750	19.05	.000	.00	.750	19.05	.315	8.00	.315	8.00	.350	8.89	.350	8.89