

# MICRO-CRIMP RECTANGULAR CONNECTORS

## Series 793 Dual-Bay



### 793-002

#### Receptacle, Panel Mount, Horizontal, Crimp

- ◆ Rear panel mounting
- ◆ Pin contacts
- ◆ Crimp termination



**Dual bay blind mating.** Space-saving 793-002 receptacle features high-density, high current and high frequency capabilities, saves size and weight compared to legacy rack-and-panel types. Machined scoop-proof shell has groove for attaching backshell. Size 23 contacts are included with connector; power contacts (#8, #12 or #16) or coaxial RF contacts (#12 and #16) are ordered separately. Connectors become non-scoop proof at parallel horizontal angles of entry from 16°–47°.

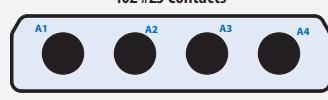
- Aerospace-grade high-density rack-and-panel connector
- Dual bay horizontal
- Environmental
- M39029-type crimp, rear-release contacts

#### INSERT ARRANGEMENTS

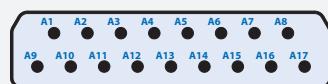
Identification numbers are mating face of receptacle (pin) connector



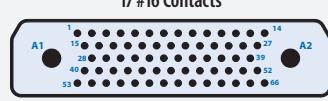
**102**  
102 #23 Contacts



**4W4**  
4 #8 Contacts



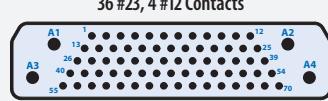
**17W17**  
17 #16 Contacts



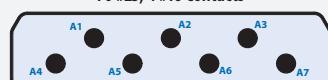
**68W2**  
66 #23, 2 #12 Contacts



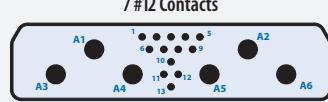
**40W4**  
36 #23, 4 #12 Contacts



**74W4**  
70 #23, 4 #16 Contacts



**7W7**  
7 #12 Contacts

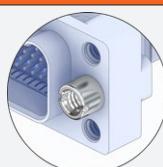


**19W6**  
13 #23, 6 #12 Contacts

#### HOW TO ORDER

Sample Part Number		793-002P	A4W4	B102	M	E	B	B
Basic Part Number		793-002P	Receptacle, Pin Contacts					
Bay "A" Insert Arr.		A102 A4W4 A17W17	A68W2 A40W4 A74W4	A7W7 A19W6				
Bay "B" Insert Arr.		B102 B4W4 B17W17	B68W2 B40W4 B74W4	B7W7 B19W6				
Shell Finish		M MT NF TZ ZR	E EMI Springs N No EMI Springs					
EMI Springs		P Female Jackposts G Guide Pins For blind mating B Guide Bushings For blind mating						
Hardware Option Table 1		Enter Letter Designator for Position <b>A</b> , <b>B</b> , <b>C</b> , or <b>D</b> per Mod Code 1502 (see page D-5 for details) <b>Omit</b> for none						
Polarization Key Option								

#### TABLE 1 HARDWARE OPTION



**P** Female Jackpost



**G** Guide Pin



**B** Guide Bushing

#### 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

#### CONSTRUCTION

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

# MICRO-CRIMP RECTANGULAR CONNECTORS

## Series 793 Dual-Bay

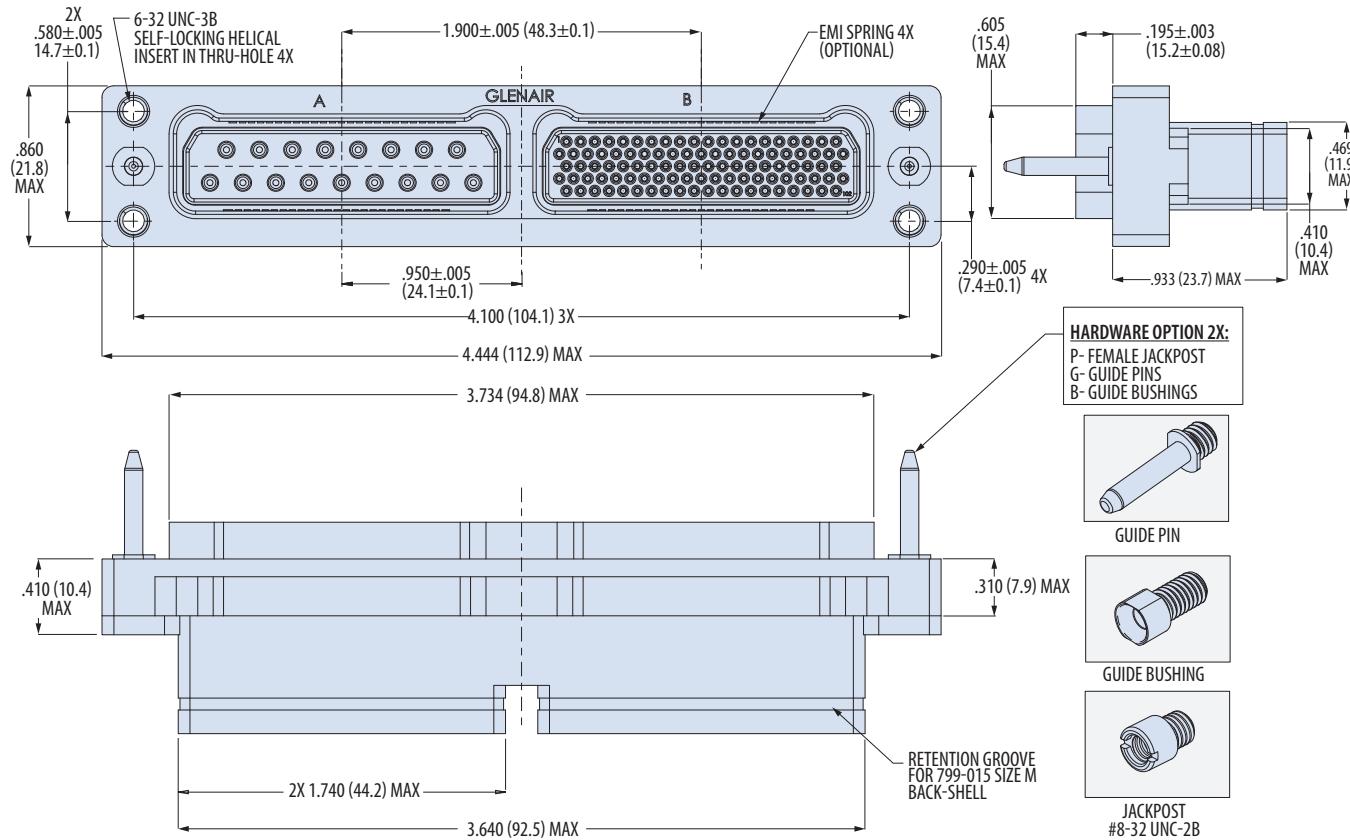
SERIES  
**793**  
Dual-Bay

**793-002**

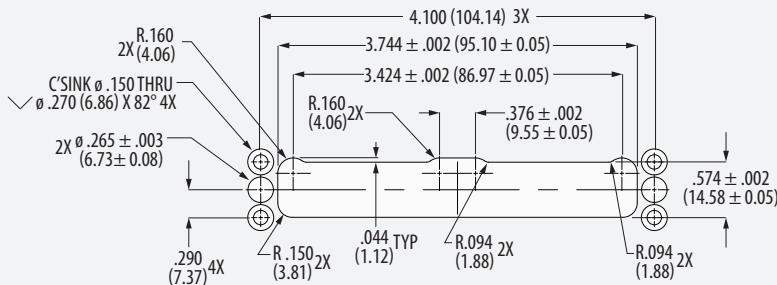
Receptacle, Panel Mount, Horizontal, Crimp

- ◆ Rear panel mounting
- ◆ Pin contacts
- ◆ Crimp termination

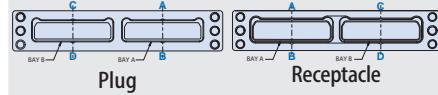
SERIES 793 DUAL-BAY



### PANEL CUTOUT FOR REAR MOUNTING



**Application Note**  
**Polarization Key Positions**  
See Mod Code 1502 pg. D-5 for details



**Application Note**  
**EMI Banding Backshell for 793-002 connector**



Use backshell part number 799-015 (Size M).  
Two backshells are required per connector.  
Two piece backshell has lip to lock into groove on connector. Available in top entry, side entry and 45° entry.

### CRIMP CONTACTS

Contact Size	Pin Contact Part No.	AWG Wire Size
23	<b>809-001</b>	22 – 28
16	<b>857-448-16</b> (M39029/58-364)	16 – 20
12	<b>857-448-12</b> (M39029/58-365)	12 – 14
8	<b>850-014F</b>	8

# MICRO-CRIMP RECTANGULAR CONNECTORS

## Series 793 Dual-Bay



### Series 793 Features and Insert Arrangements



#### Series 793 Dual-Bay

The Series 793 connector is a high reliability aerospace-grade rectangular connector with two inserts for up to 204 contacts. The 793 connector saves size and weight compared to legacy rack-and-panel types. The tight-tolerance scoop-proof shell and recessed contacts guarantee accurate alignment and trouble-free service. Contact sizes are #23, #16, #12, and #8 in eight insert arrangements.

#### Connector Types

##### Crimp, Rear Release

793 connectors have metal retention clips inside the contact cavities. Wired contacts snap into connector bodies and can be removed with a release tool. Size 23 contacts are included with connector. Other sizes are ordered separately.

##### PCB Termination

793 connectors are available in straight tail or 90° PCB versions. Connectors have factory-installed PCB terminals. Terminals are epoxy sealed and are compatible with conformal coatings.

##### Contact Sizes

Size 23 (#22 – #28 AWG wire)



Size 16 (#16 – #20 AWG wire)



Size 12 (#12 – #14 AWG wire)



Size 8 (#8 AWG wire)



##### Panel Mounting

Space-saving Series 793 connectors are designed for rear panel installation. Panel mounting holes have stainless steel #6-32 self-locking threaded inserts.

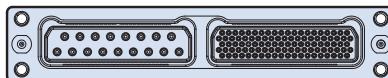
##### Environmental Protection

793 crimp connectors have fluorosilicone wire grommets and interfacial seals for ingress protection. PCB versions have epoxy-sealed terminals.

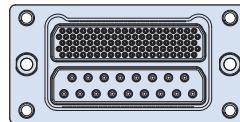
#### Horizontal or Vertical

793 connectors have two inserts arranged side-by-side or top-and-bottom:

##### Horizontal



##### Vertical



#### Blind Mating

Series 793 connectors have precision machined shells and guide pins for use in blind mate rack-and-panel applications.



#### EMI Shielding

##### Ground Springs

Optional ground springs provide low, stable shell-to-shell resistance. Available on 793 receptacles.

##### 90° PCB Shroud

Right angle PCB connectors have a metal shroud over contact tails for EMI shielding.

##### EMI Backshell

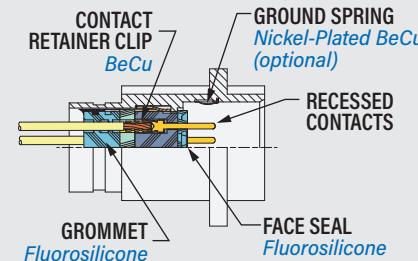
Crimp connectors have grooves for attaching EMI backshells. Terminate cable shield to backshell with *BandMaster ATS*® band strap.



#### Hardware Options

Hardware options include guide pins, jackscrews or screwlocks.

**Scoop-Proof Interface** Series 793 pin contacts are recessed to protect them from damage. Connectors become non-scoop proof at parallel horizontal angles of entry from 16°–47°.



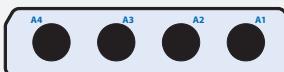
#### INSERT ARRANGEMENTS

Identification numbers are mating face of plug (socket) connector



**102**

102 #23 Contacts



**4W4**

4 #8 Contacts



**17W17**

17 #16 Contacts



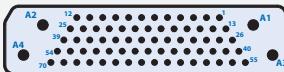
**68W2**

66 #23, 2 #12 Contacts



**40W4**

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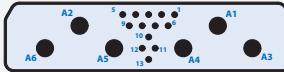
**74W4**

70 #23, 4 #16 Contacts



**7W7**

7 #12 Contacts



**19W6**

13 #23, 6 #12 Contacts

SERIES 793 DUAL-BAY

## Series 793 Material and Finish Options Polarization Keying Options

The Series 793 Dual-bay 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	<b>M</b>	<b>MT</b>	<b>TZ</b>	<b>N</b>	<b>ZR</b>
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 <sup>(1)</sup>	Yes	Yes	Yes	No	Yes

<sup>(1)</sup> 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 <sup>(1)</sup>
<b>C</b>	Alum	Anodize, Black	MIL-PRF-8625	48	Non-Conductive	✓
<b>E<sup>(2)</sup></b>	Alum	Chem Film, Gold	MIL-DTL-5541	168	Conductive	
<b>J</b>	Alum	Cadmium, Yellow	AMS-QQ-P-416	500	Conductive	
<b>Z1</b>	SST	Passivate	AMS2700	500	Conductive	✓
<b>Z2</b>	Alum	Gold	MIL-DTL-45204	48	Conductive	✓
<b>ZM</b>	SST	Electroless Nickel	AMS-C-26074	500	Conductive	✓
<b>ZMT</b>	SST	Nickel-PTFE	AMS2454	1000	Conductive	✓
<b>ZW</b>	SST	Cadmium, Olive Drab	AMS-QQ-P-416	500	Conductive	
<b>ZZR</b>	SST	Zinc-Nickel, Black	ASTM B841	500	Conductive	✓

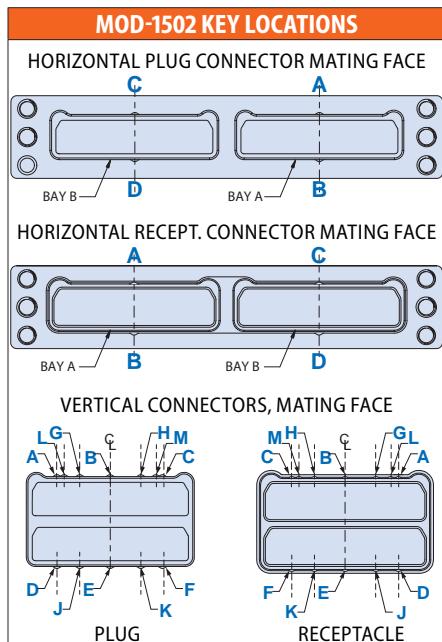
<sup>(1)</sup> Does not contain cadmium or hexavalent chromium. Meets EU requirements.

<sup>(2)</sup> Maximum temperature = +125°C

### OPTIONAL POLARIZATION KEYS

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

Series 793 connectors are available with an integral polarizing key. Keyed plug connectors have a raised boss on the shell. Receptacles have corresponding keyway. Add the keying position letter designator to the end of the part number to order. *Note: keyed receptacles will mate with unkeyed plugs.*



HOW TO ORDER					
Step 1	Create a Series 793 connector part number:				
Step 2	Add the keying position letter designator to the part number: <b>A, B, C, or D</b> (for horizontal connectors); <b>or A, B, C, D, E, F, G, H, J, K, or L</b> (for vertical connectors)				
	793-001SA17W17B102MG				
	793-001SA17W17B102MGB				

### POLARIZING KEY LOCATIONS - HORIZONTAL CONNECTORS

All horizontal connector polarizing keys are on the centerline, as shown in the diagram.

POLARIZING KEY LOCATIONS - VERTICAL CONNECTORS											
Key Position Offset From Vertical Centerline											
Position A		Position B		Position C		Position D		Position E		Position F	
in±.001	mm±.003	in±.001	mm±.003	in±.001	mm±.003	in±.001	mm±.003	in±.001	mm±.003	in±.001	mm±.003
.550	13.97	0.000	0.00	.550	13.97	.600	15.24	0.000	0.00	.600	15.24
Position G		Position H		Position J		Position K		Position L		Position M	
in±.001	mm±.003	in±.001	mm±.003	in±.001	mm±.003	in±.001	mm±.003	in±.001	mm±.003	in±.001	mm±.003
0.315	8.00	0.315	8.00	0.350	8.89	0.350	8.89	0.475	12.07	0.475	12.07

## 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
Interfacial Seal	Fluorosilicone/silicone blend
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	<table border="1"> <thead> <tr> <th>Contact Size</th> <th>Current (A)</th> </tr> </thead> <tbody> <tr> <td>#23</td> <td>5</td> </tr> <tr> <td>#16</td> <td>13</td> </tr> <tr> <td>#12</td> <td>23</td> </tr> <tr> <td>#8</td> <td>46</td> </tr> </tbody> </table>	Contact Size	Current (A)	#23	5	#16	13	#12	23	#8	46
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 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, #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: >75 dB, 1 – 4GHz: >60dB, 4 – 10GHz: >40dB	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 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	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 $\mu$ maximum	EIA-364-54