

# MICRO-CRIMP RECTANGULAR CONNECTORS

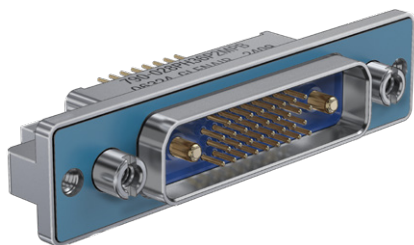
## Series 790 High-Density

SERIES™  
**790**  
HD

### 790-028

Panel Receptacle, Straight PC Tails

- ◆ Straight PCB termination
- ◆ Rear panel mount
- ◆ Pin contacts



790-028 receptacle has straight PC tails. Connector has conductive gasket for rear panel mounting. Contact tails are sealed with epoxy. Machined aluminum shell has integral standoff and threaded holes for attachment to PC board. Fluorosilicone face seal provides environmental protection. Available in forty insert arrangements with up to 102 contacts. Contact sizes include high-density #23 contacts on .075 inch (1.9mm) centers, #16 contacts, #12 contacts, and #8 contacts.

- Aerospace-grade microminiature PCB connector with M39029-type signal and power contacts
- Epoxy sealed terminals
- Conductive panel gasket
- Environmental

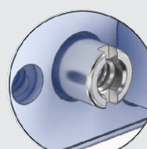
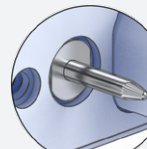
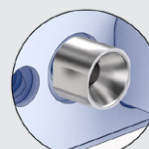
#### INSERT ARRANGEMENTS

| Insert Arrangement | 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  |

#### HOW TO ORDER

| Sample Part Number                |                                                | 790-028P                              | L-78 | MT | G | B |
|-----------------------------------|------------------------------------------------|---------------------------------------|------|----|---|---|
| Basic Part Number                 | 790-028P                                       | Straight PCB Receptacle, Pin Contacts |      |    |   |   |
| Shell Size-Insert Arr.            | See <i>“Insert Arrangements”</i> Table         |                                       |      |    |   |   |
| Shell Finish                      | <u>M Electroless Nickel</u>                    |                                       |      |    |   |   |
|                                   | <u>MT Nickel / PTFE</u>                        |                                       |      |    |   |   |
|                                   | <u>N Olive Drab Cadmium</u>                    |                                       |      |    |   |   |
|                                   | <u>TZ Tin-Zinc</u>                             |                                       |      |    |   |   |
|                                   | <u>ZR Black Zinc-Nickel</u>                    |                                       |      |    |   |   |
| Hardware Option<br><i>Table 1</i> | <u>N No Hardware <i>Threaded holes</i></u>     |                                       |      |    |   |   |
|                                   | <u>G Guide Pins <i>For blind mating</i></u>    |                                       |      |    |   |   |
|                                   | <u>P Female Jackposts</u>                      |                                       |      |    |   |   |
|                                   | <u>S Guide Sockets <i>For blind mating</i></u> |                                       |      |    |   |   |
| PC Tail Length                    | <u>A .125 inch (3.2mm)</u>                     |                                       |      |    |   |   |
|                                   | <u>B .250 inch (6.4mm)</u>                     |                                       |      |    |   |   |
|                                   | <u>C .375 inch (9.5mm)</u>                     |                                       |      |    |   |   |

#### TABLE 1 HARDWARE OPTIONS

|                                                                                     |                                                                                     |                                                                                       |                                                                                       |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  |  |  |  |
| <b>N</b>                                                                            | <b>P</b>                                                                            | <b>G</b>                                                                              | <b>S</b>                                                                              |
| No Hardware Threaded Blind Holes                                                    | Female Jackpost                                                                     | Guide Pin                                                                             | Guide Socket                                                                          |

#### 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
- Insulator: High performance thermoplastic
- Face seal: Fluorosilicone/silicone blend
- Panel gasket: Cho-Seal 1287 silver-plated aluminum filled fluorosilicone
- Encapsulant: Epoxy
- Hardware: Stainless steel

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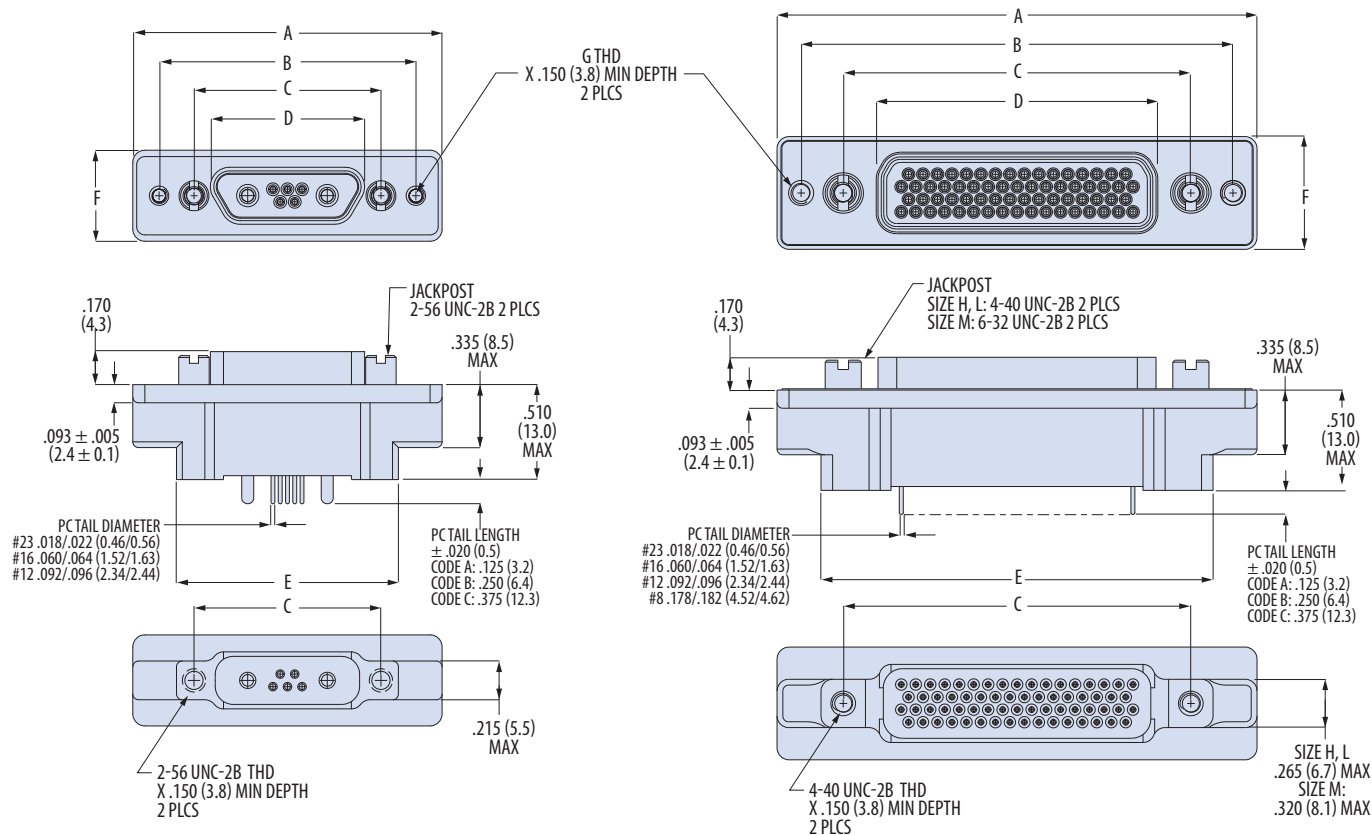


### 790-028

### Panel Receptacle, Straight PC Tails

- ◆ Straight PCB termination
- ◆ Rear panel mount
- ◆ Pin contacts

SERIES 790 HIGH-DENSITY



**SHELL SIZE A-G, J, K**

**SHELL SIZE H, L, M**

| Shell Size | A Max |      | B ± .005 (0.1) |      | C ± .005 (0.1) |      | D Max |      | E Max |      | F Max |      | G Thd  |
|------------|-------|------|----------------|------|----------------|------|-------|------|-------|------|-------|------|--------|
|            | in    | mm   | in             | mm   | in             | mm   | in    | mm   | in    | mm   | in    | mm   | UNC-2B |
| A          | 1.211 | 30.8 | .925           | 23.5 | .565           | 14.4 | .401  | 10.2 | .760  | 19.3 | .485  | 12.3 | 2-56   |
| B          | 1.361 | 34.6 | 1.075          | 27.3 | .715           | 18.2 | .551  | 14.0 | .910  | 23.1 | .485  | 12.3 | 2-56   |
| C          | 1.511 | 38.4 | 1.225          | 31.1 | .865           | 22.0 | .701  | 17.8 | 1.060 | 26.9 | .485  | 12.3 | 2-56   |
| D          | 1.611 | 40.9 | 1.325          | 33.7 | .965           | 24.5 | .801  | 20.3 | 1.160 | 29.5 | .485  | 12.3 | 2-56   |
| E          | 1.761 | 44.7 | 1.475          | 37.5 | 1.115          | 28.3 | .951  | 24.2 | 1.310 | 33.3 | .485  | 12.3 | 2-56   |
| F          | 1.911 | 48.5 | 1.625          | 41.3 | 1.265          | 32.1 | 1.101 | 28.0 | 1.460 | 37.1 | .485  | 12.3 | 2-56   |
| G          | 1.861 | 47.3 | 1.575          | 40.0 | 1.215          | 30.9 | 1.079 | 27.4 | 1.410 | 35.8 | .575  | 14.6 | 2-56   |
| H          | 2.500 | 63.5 | 2.236          | 56.8 | 1.800          | 45.7 | 1.450 | 36.8 | 2.045 | 51.9 | .600  | 15.2 | 4-40   |
| J          | 2.261 | 57.4 | 1.975          | 50.2 | 1.615          | 41.0 | 1.460 | 37.1 | 1.810 | 46.0 | .485  | 12.3 | 2-56   |
| K          | 2.661 | 67.6 | 2.375          | 60.3 | 2.015          | 51.2 | 1.860 | 47.2 | 2.045 | 51.9 | .485  | 12.3 | 2-56   |
| L          | 2.736 | 69.5 | 2.472          | 62.8 | 2.036          | 51.7 | 1.686 | 42.8 | 2.281 | 57.9 | .600  | 15.2 | 4-40   |
| M          | 3.085 | 78.4 | 2.770          | 70.4 | 2.200          | 55.9 | 1.745 | 44.3 | 2.485 | 63.1 | .660  | 16.8 | 6-32   |

| BLIND MATE TOLERANCES |                                        |
|-----------------------|----------------------------------------|
| Shell Size            | Allowable Misalignment from Centerline |
| A - G, J, K           | ± .030 (0.8)                           |
| H, L                  | ± .040 (1.0)                           |
| M, N                  | ± .050 (1.3)                           |

| HARDWARE DETAILS                                                                                                                |                                                                                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>N</b> No Hardware<br/>Tapped holes. Size A-G, J, K = 4-40, H, L = 6-32, M = 8-32. .150 (3.8) min. depth</p>               | <p><b>P</b> Female Jackposts<br/>Jackposts are non-removable. Size A-G, J, K = 2-56, H, L = 4-40, M = 6-32.</p>                     |
| <p><b>G</b> Guide Pins<br/>Guide pins for blind mate applications. Non-removable. Requires guide socket (S) on mating plug.</p> | <p><b>S</b> Guide Sockets<br/>Guide sockets for blind mate applications. Non-removable. Requires guide pins (G) on mating plug.</p> |

#### Application Note

##### PCB Footprints

See Section **G** for PC board layouts.

Straight tails: pages **G-1 – G-9**  
90° tails: pages **G-10 – G-20**

#### Application Note

##### Panel Cutout

See page **A-60** for panel cutout dimensions.