

# MIL-Rectangular Connectors

Aptiv's MIL-Rectangular Connectors, also known as D-sub or MIL-SPEC rectangular connectors, are our rugged MIL-SPEC connectors used in military, aerospace, industrial and commercial systems. These heavy-duty connectors offer performance in harsh environments that meet MIL-SPEC requirements. Featuring a D-shaped metal shell for EMI shielding and mechanical alignment, MIL-Rectangular connectors are a common choice for high density, high integrity applications where space is at a premium and connectors are subject to vibration, shock, temperature extremes and other extreme conditions.

## KEY FEATURES & BENEFITS

- High Reliability – MIL-SPEC-qualified for mission-critical performance
- Rugged Construction – Built to withstand shock, vibration, and stress
- EMI/RFI Shielding – D-shell design provides excellent signal protection
- Versatile Contact Options – Supports signal, power, coax, and fiber in one shell
- High-Density Configurations – Maximizes interconnects in limited space
- Environmental Sealing – Available in hermetic or sealed variants
- Wide Temperature Range – Performs across harsh thermal extremes
- Easy Handling – Secure mating via jackscrews or quick-disconnects

## PRODUCT SPECIFICATIONS

| Electrical Properties           |                                  |
|---------------------------------|----------------------------------|
| Current Rating                  | 5A (Signal), 20A–40A (Power)     |
| Voltage Rating                  | 250 VAC to 700 VAC (sea level)   |
| Insulation Resistance           | 5000 MΩ min                      |
| Dielectric Withstanding Voltage | 1000 VAC to 2000 VAC (sea level) |
| Contact Resistance              | 10 mΩ max                        |
| Shielding Effectiveness         | 50 dB to 70 dB                   |

| Environmental Properties |                                       |
|--------------------------|---------------------------------------|
| Operating Temperature    | –55°C to +125°C                       |
| Thermal Shock            | Rapid temperature changes             |
| Humidity                 | 90–95% RH, non-condensing             |
| Salt Spray / Corrosion   | 48 to 500 hours                       |
| Altitude                 | Up to 70,000 feet                     |
| Fluid Resistance         | Withstands aviation/industrial fluids |

### PRODUCT SPECIFICATIONS CONTD.

| Mechanical Properties     |                               |
|---------------------------|-------------------------------|
| Mating Cycles             | 500 to 1000 cycles            |
| Contact Retention (Axial) | 4.5 lbs (20 N) min            |
| Vibration                 | 20 G, 10–2000 Hz              |
| Shock                     | 50 G, 11 ms                   |
| Materials (Shell)         | Steel, Stainless, Aluminum    |
| Materials (Contacts)      | Copper Alloy with Gold/Nickel |
| Materials (Insulator)     | Thermoplastic or Thermoset    |