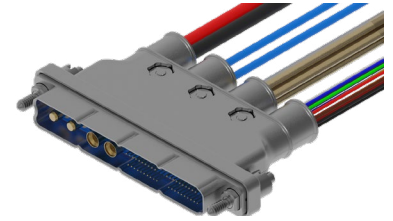


# AirBorn SInergy Modular High-Speed Hybrid Connectors >



Supporting complex, high-performance systems by providing up to 25Gbps per lane and up to 25.0A of power in a modular and customizable form factor, AirBorn SInergy Modular High-Speed Hybrid Connectors are qualified to MIL-DTL-83513 standards for reliability in space-constrained aerospace, defense and space applications. One to five configurable bays enable customizable signal, power and RF interfaces that streamline integration and design, while a durable four-point contact system and rugged die-cast metal bodies provide robust reliability in extreme environments.

## ADVANTAGES AND FEATURES

### Reduces weight and saves PCB real estate

The small form factor with a 10.16mm (.400") module pitch helps optimize contact density in space-constrained devices, offering a contact pitch of 0.80mm (.0315") for signal contacts and 4.39mm (.173") for SMPM RF and power contacts.

### Provides reliable PCB connections and long-term durability

High-quality surface-mount terminations conform to IPC-A-610 Class 3 specifications, helping prevent solder joint failures and enhancing performance throughout the product life cycle.

### Minimizes space usage for tight locations and constrained layouts

Power modules support up to 25.0A per contact, delivering reliable high power in a miniaturized form factor.

Modular Bays	1 to 5
Validation	Qualified to MIL-DTL-83513 performance requirements
Data Rates (High-Density Signal Module)	Up to 25Gbps
Frequencies (RF Module)	Up to 40 GHz
Current (Power Module)	Up to 25.0A per contact

### Helps prevent connection failures in vibration- or shock-prone applications

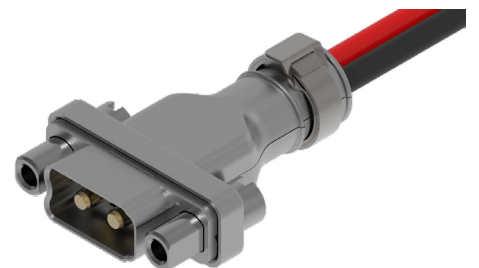
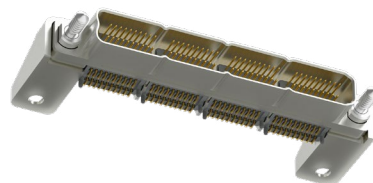
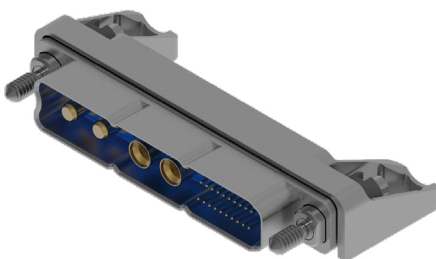
Versatile options for locking, jacking and guide hardware are available to optimize mechanical alignment and mating security while securely fastening the connector to the PCB.

### Enhances corrosion resistance and minimizes the chances of signal failure

Robust interface plating with 50 microinches of gold and solderable gold termination plating improve durability and signal reliability.

### Simplifies cable and assembly complexity

SMPM RF, twinax and discrete-wire cables up to 12 AWG can be incorporated into AirBorn SInergy cable assemblies in various configurations, combining multiple functions into a more unified, system-ready solution.



# AirBorn SInergy Modular High-Speed Hybrid Connectors >

## MARKETS AND APPLICATIONS

### Aerospace

- Avionics
- Drones
- Full authority digital electronics control systems
- Head-up displays

### Defense

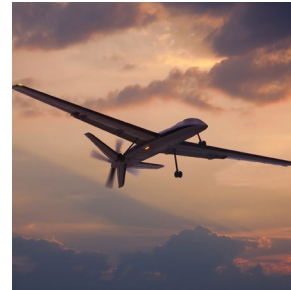
- Combat vehicles
- Communications devices
- Land-based radar systems
- Missile systems
- Radar systems
- Radio communications

### Space

- Cube satellites
- Satellites
- Vision/camera systems



Satellites



Drones



Combat Vehicles



Head-Up Displays



Land-Based Radar Systems

## SPECIFICATIONS

### Reference Information

- Packaging: Tray (connectors), bag (cables)
- Designed In: Inches
- RoHS: Yes
- Halogen Free: Yes
- Configuration: 1 to 5 modular bays—high-density signal (HD), power, SMPM (RF)

### Physical

- Shell: Zinc or aluminum alloy, electroless nickel finish
- Hardware: Stainless steel, passivated finish
- Contact: Beryllium copper (HD and RF)
- Bushing (RF): Brass
- Dielectric (RF): Polytetrafluorethylene (PTFE)
- Operating Temperatures: -55 to +125°C

### Electrical

- Voltage: Up to 250V AC (RMS)
- Current: Up to 2.5A (HD) or 25.0A (power)
- Frequency: DC to 40 GHz (RF)
- Data Rate: Up to 25Gbps per pair (HD)
- Contact Resistance: Up to 30 milliohms (HD or RF)
- Impedance: 100 Ohms (HD), 50 Ohms (RF)
- Dielectric Withstanding Voltage:
  - Sea level—750V AC (RMS)
  - 21,336m (70,000 feet)—250V AC (RMS)
- Insulation Resistance: 5,000 Megohms
- Insertion Loss: -0.75 dB @ 12.5 GHz (HD), -0.5 dB @ 40 GHz (RF)
- Return Loss: -13.42 dB @ 12.5 GHz (HD)
- Voltage Standing Wave Ratio (VSWR): 1.07 @ 40 GHz (RF)

### Mechanical

- Module Pitch: 10.16mm (.400")
- Contact Pitch: 0.80mm (.0315") (HD), 4.39mm (.173") (power or RF)
- Mated Stack Height: 10.00mm (.393")
- Sinusoidal Vibration: 20 g per MIL-DTL-83513
- Shock: 50 g per MIL-DTL-83513
- Outgassing: Max. total mass loss (TML) of 1% and max. collected volatile condensable materials (CVCM) of 1% per MIL-DTL-83513
- Circuit Size: 20 (signal), 2 (power or RF)
- Durability (max.): 500 cycles