



**Positronic®**  
an Amphenol company



# SPACE

Space has been a subject of fascination for humans for centuries. Studies and exploration have led to many scientific discoveries and technological advancements, including the development of satellite communication, GPS, and weather forecasting technologies. It is a challenging environment that requires specialized equipment and technology to explore.

Space connectors are essential components of electronic equipment used in space applications, whether on a spacecraft or a satellite. They are designed to meet the stringent requirements of space agencies such as NASA or the European Space Agency (ESA). Outgassing, residual magnetism, and other factors can adversely affect nearby components in space, so connectors must be designed to withstand harsh conditions.

Connectors allow easy transmission of power, data, and signals between different systems and environments in space, making exploration and scientific discoveries possible.

## APPLICATIONS

- Satellites
- Instrumentation and Sensors
- Power Distribution
- Communication Systems
- Payload Integration
- Thermal Control Systems
- Data Storage and Transfer
- Mechanical Systems
- Telecommunication Infrastructure
- Avionics
- Robotic Systems
- Spacecraft
- Control Systems
- Launch Infrastructure
- Space Installations
- Manned Vehicles
- Unmanned Vehicles

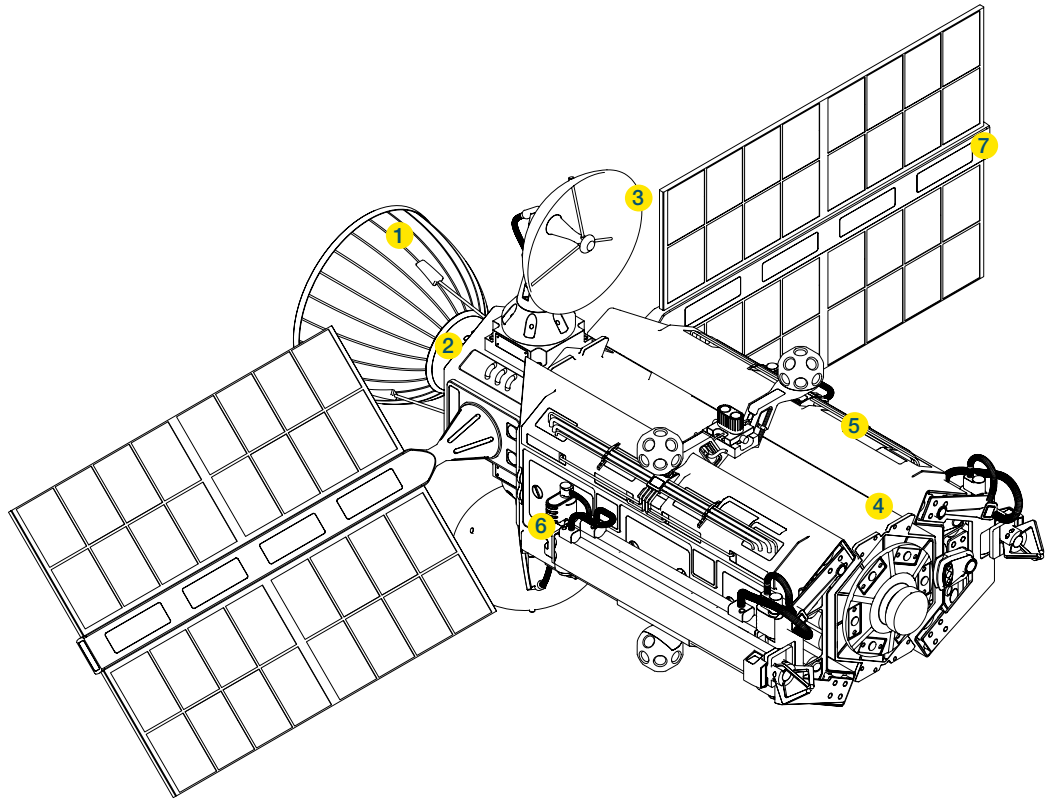
## FEATURES & BENEFITS

- Rugged designs withstand the harsh conditions of space
- Low outgassing prevents contamination and degradation of equipment and instruments
- Non-magnetic connectors preserve the accuracy, calibration, and reliability of sensitive instruments and electronic systems
- Vibration and shock resistance maintains secure connections
- EMI/RFI shielding protects sensitive electronics from external electromagnetic signals
- Rigorous testing and quality control meets or exceeds applicable material, dimensional, and performance requirements of NASA, Goddard S-311, MIL-DTL-24308 Classes M and D, and/or the European Space Agency (ESA)

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Satellite systems require rugged, lightweight, and highly reliable connectors to perform in the extreme conditions of space. These components support a wide range of critical functions, including guidance and navigation, propulsion, antenna systems, thermal control, avionics, payload operations, and power management. Within each subsystem, connectors enable the reliable transmission of data, signals, and power to essential devices such as sensors, controllers, amplifiers, and transmitters. Designed to withstand harsh space environments, these solutions offer low outgassing, non-magnetic properties, and resistance to shock and electromagnetic interference, ensuring consistent performance throughout the satellite's mission.

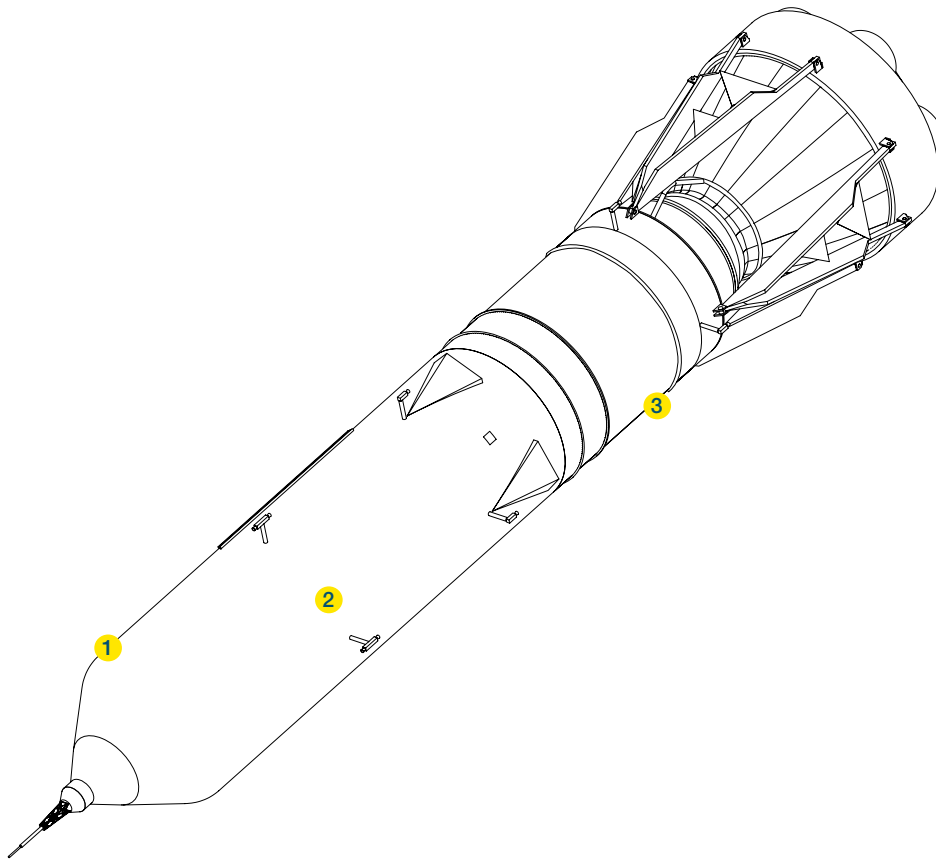
- 1 Guidance and Navigation**
  - Controllers
  - Sensors
  - Positioners
- 2 Propulsion Thrusters**
  - Power Controller
  - Power Processor
- 3 Antenna**
  - Transponders
  - Amplifiers
- 4 Avionics**
  - Onboard computers
- 5 Thermal Control**
  - Sensors
  - Controller
- 6 Payload Module**
  - Communications
  - Transmitters
  - Receivers
- 7 Power**
  - Regulator
  - Generators



	1	2	3	4	5	6	7
	Guidance and Navigation	Propulsion Thrusters	Antenna	Avionics	Thermal Control	Payload Module	Power
Space / High Performance D-Sub	•	•	•	•	•	•	
M24308 Classes M and D	•			•		•	
Goddard S-311	•			•		•	
Mach-D	•	•	•	•	•	•	•
Scorpion	•					•	
SP Max	•	•	•	•	•	•	•

\* Applications listed are common use cases and not all-inclusive. For additional guidance, please contact Positronic Technical Sales.

Rocket systems depend on advanced electronic components to ensure reliable payload delivery, propulsion, and navigation in demanding environments. Positronic connectors play a vital role across key subsystems, supporting critical functions such as imaging, power distribution, control, navigation, and flow regulation. Engineered for high-vibration, high-temperature conditions, these connectors provide robust data, signal, and power transmission while meeting strict spaceflight qualifications. Their integration enables precise guidance, secure operations, and dependable performance in space launch vehicles.

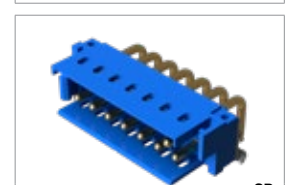
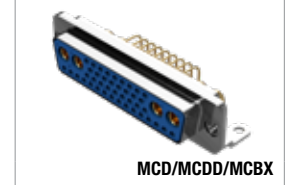
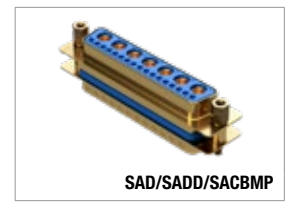
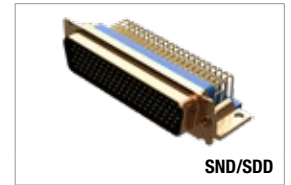


- |          |                                                                                                                                                                                                                                                                                  |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1</b> | <b>Payload System</b>                                                                                                                                                                                                                                                            |
|          | <ul style="list-style-type: none"> <li>• Communications</li> <li>• Imaging</li> <li>• Payload Module Computer (PMC)</li> <li>• Thermal Control Unit (TCU)</li> <li>• Power Distribution Unit (PDU)</li> <li>• Power Control Unit (PCU)</li> <li>• Altitude Controller</li> </ul> |
| <b>2</b> | <b>Guidance</b>                                                                                                                                                                                                                                                                  |
|          | <ul style="list-style-type: none"> <li>• Controllers</li> <li>• Navigation</li> <li>• Accelerometer</li> <li>• Amplifier</li> <li>• Detectors</li> <li>• Convertors</li> </ul>                                                                                                   |
| <b>3</b> | <b>Propulsion</b>                                                                                                                                                                                                                                                                |
|          | <ul style="list-style-type: none"> <li>• Flow Controllers</li> <li>• Actuators</li> </ul>                                                                                                                                                                                        |

	1	2	3
	Payload System	Guidance	Propulsion
Space / High Performance D-Sub	•	•	
M24308 Classes M and D	•	•	
Goddard S-311	•	•	
Mach-D	•	•	•
Scorpion	•	•	
SP Max	•	•	•

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FEATURE	D-SUBMINIATURE										POWER & HYBRID	
	SND	SDD	SCBM SCBC	SCBDD SCBCD	MCD	MCDD	MCBX	SAD	SADD	SACBMP	SP	SM
<b>Qualifications</b>	Meets or exceeds performance requirements of GSFC S-311 and ESA		Meets or exceeds performance requirements of GSFC S-311		Meets or exceeds performance requirements of MIL-DTL-24308			Meets or exceeds performance requirements of GSFC S-311				
#4 Contacts											•	
#8 Contacts			•	•			•			•	•	
#12 Contacts											•	•
#16 Contacts				•			•				•	•
#18 Contacts											•	•
#20 Contacts	•		•		•		•	•		•		
#22 Contacts		•		•			•	•		•	•	•
Solid machined contacts	•	•	•	•	•	•	•	•	•	•	•	•
Power and signal in a single connector			•	•			•			•	•	•
Modular connector with expandable envelope											•	•
Configurable layout											•	•
Integral blind mating											•	•
Metal shell	•	•	•	•	•	•	•	•	•	•	•	•
High voltage			•	•			•			•	•	•
Wire termination	•	•	•	•	•	•	•				•	•
PCB termination	•	•	•	•	•	•	•				•	•
Press-fit PCB contacts	•	•	•	•	•	•	•				•	•
First mate, last break											•	•
Venting											•	
Panel mount	•	•	•	•	•	•	•				•	•
Free cable	•	•	•	•	•	•	•				•	•



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