HARWiN

CONNECT TECHNOLOGY
WITH CONFIDENCE

SPACE SYSTEMS

FROM EARTH TO ORBIT
NEW SPACE CONNECTIVITY YOU CAN TRUST

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CONTENTS

SPACE SYSTEMS

RELIABILITY WITHOUT COMPROMISE

SPACE IS ONE OF THE HARSHEST ENVIRONMENTS IMAGINABLE. Vacuum, extreme thermal radiation, violent vibration, and zero margin for failure, every component must perform flawlessly under conditions few technologies can survive. That's why leading global space programmes trust Harwin.

Our lightweight, compact, and high-reliability interconnects are engineered to withstand the full force of launch, the extremes of orbit, and the unforgiving environment of space. All backed by EN9100D / AS9100D certification, advanced manufacturing, and a relentless focus on quality.

BUILT FOR SPACE. PROVEN ON EARTH.
Harwin components deliver outstanding performance not only in orbit, but also in mission-critical and high-vibration applications on Earth, from aerospace to industrial automation.

We continually invest in automation, precision engineering, and quality systems to ensure reliable, cost-effective, and fast delivery of innovative connector technologies.

HRI RANGE

HRi RANGE

The Harwin HRi range comprises high-reliability (Hi-Rel) interconnect solutions that are perfect for this environment, where uncompromising performance and absolute dependability are essential. Designed for satellites, aerospace, medical devices, defence, and other mission-critical systems, the HRi range delivers proven durability and innovation in every connection.

From the compact and lightweight Gecko series to the high-density Datamate and M300 ranges, and the high-power Kona connectors, each solution is engineered to deliver maximum reliability in the smallest possible footprint. Built to endure extreme vibration, shock, and temperature variation, these interconnects maintain robust signal integrity and long-term performance assurance in even the most demanding conditions.

Whether operating in orbit, in flight, or on the front line, Harwin HRi connectors keep vital systems connected when it matters most.

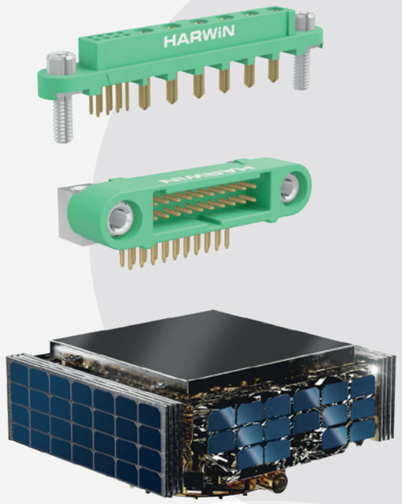
WHY ENGINEERS TRUST HARWIN

- Proven supplier to the space industry
- Lightweight, high-reliability interconnects with small footprints
- Certified to EN9100D / AS9100D
- Resilient under extreme temperatures, shock, vibration, and radiation
- Backed by exceptional global support and expert guidance

TOOLS TO GET YOU THERE

We support engineers at every stage, from concept to launch, with a full suite of technical resources: Expert advice / Training videos / Test reports and certifications / Assembly instructions / Datasheets and 3D CAD models.
Explore them all at: harwin.com/resources/product-datasheets

Whether you're designing for orbit or the toughest environments on Earth, Harwin delivers dependable, high-performance connectivity solutions that you can count on.



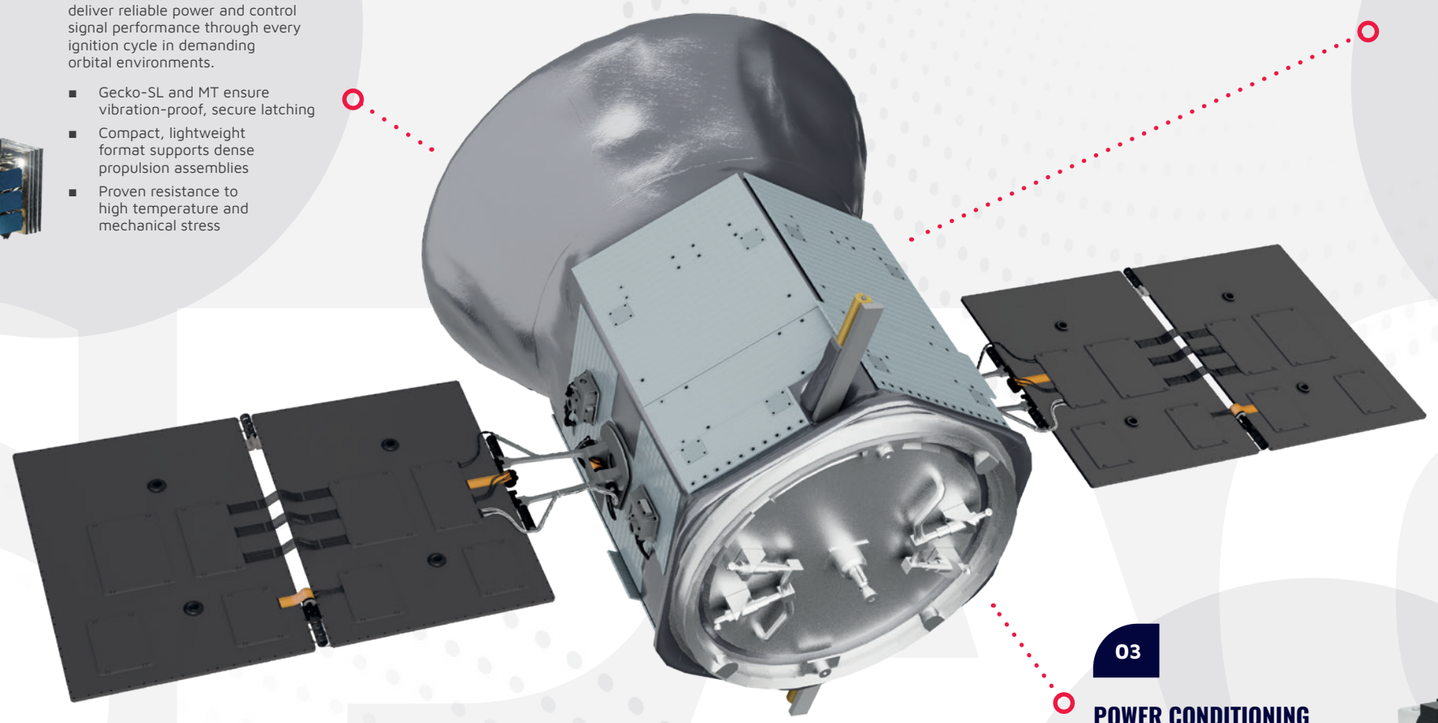
01

THRUSTERS

PRODUCTS: GECKO-SL, GECKO-MT

Thruster systems demand connectors that endure vibration, heat, and propulsion shock. Harwin's Gecko-SL and Gecko-MT connectors deliver reliable power and control signal performance through every ignition cycle in demanding orbital environments.

- Gecko-SL and MT ensure vibration-proof, secure latching
- Compact, lightweight format supports dense propulsion assemblies
- Proven resistance to high temperature and mechanical stress



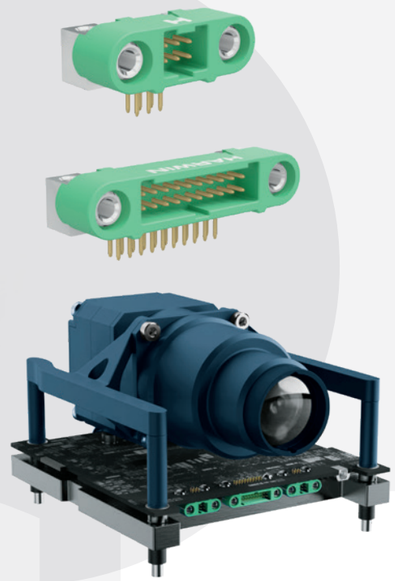
02

PAYLOAD CAMERAS

PRODUCTS: GECKO-SL

Precision imaging relies on stable electrical connections under vibration and temperature extremes. Harwin's Gecko-SL connectors deliver dependable signal integrity for high-resolution payload cameras and sensor systems throughout the mission.

- Gecko-SL provides secure, low-profile latching
- Excellent signal clarity for imaging and telemetry circuits
- High vibration and temperature endurance for optical payloads



03

POWER CONDITIONING AND BATTERY MANAGEMENT

PRODUCTS: DATAMATE J-TEK 3-ROW, DATAMATE J-TEK

Stable power distribution and storage control are critical for satellite longevity. Harwin's Datamate J-Tek 3-row and Datamate J-Tek connectors provide robust, high-reliability performance in power conditioning and battery management systems.

- High pin-count options for dense power circuits
- Proven contact integrity under load and temperature cycling
- Rugged design for fault-free orbital operation

APPLICATION

SATELLITES

For missions measured in years, reliability can't be optional. Harwin connectors provide steadfast electrical performance in harsh orbit environments – resisting vacuum, radiation, and temperature swings. From power systems to communication payloads, our high-reliability interconnects deliver continuity, stability, and confidence across every orbit, ensuring satellites stay connected long after launch.

APPLICATION

NANO SATELLITES

Small satellites, big ambitions. Harwin's ultra-compact connectors bring strength, endurance, and signal clarity to the smallest spacecraft. Built to perform under vibration, radiation, and thermal extremes, our high-density interconnects enable precision control and data transfer in tight spaces – helping engineers achieve more performance per gram in every CubeSat and nano-satellite mission.

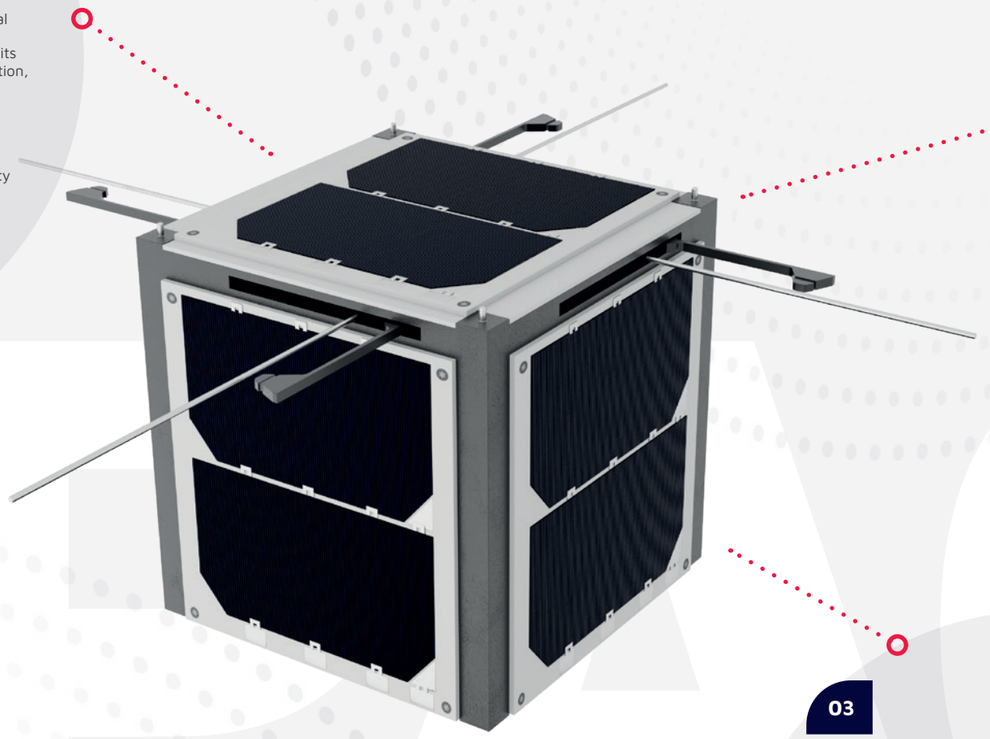
01

TRANSMITTERS / TELEMETRY EQUIPMENT

PRODUCTS: DATAMATE COAX, DATAMATE J-TEK

Reliable data links demand secure, low-loss connections. Harwin connectors deliver consistent signal integrity and mechanical stability for space-borne transmitters and telemetry units operating under intense vibration, radiation, and thermal stress.

- Dual hot-redundant connections for mission-critical communication
- Low-noise, high-frequency Coax and Datamate J-Tek systems
- Proven resistance to vibration, shock, and temperature extremes



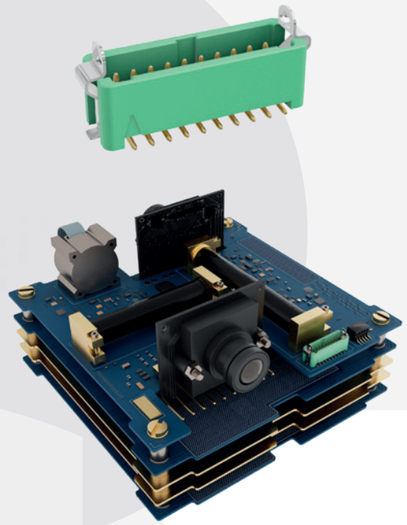
02

ATTITUDE CONTROL

PRODUCTS: GECKO LATCH

Precise satellite orientation relies on dependable control electronics. Harwin's compact, high-reliability connectors ensure robust electrical performance for sensors and actuators within constrained nano satellite platforms.

- Secure mating with Gecko Latch for high-vibration resilience
- Compact footprint ideal for tight control modules
- Reliable contact integrity across temperature and radiation variations



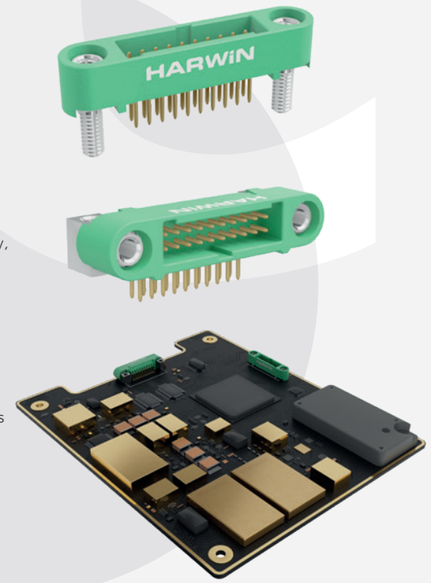
03

ONBOARD COMPUTER

PRODUCTS: GECKO-SL

Harwin connectors safeguard the core computing and telemetry systems that govern satellite operation. Engineered for stability, they maintain uninterrupted data and power transmission through radiation, vacuum, and launch stress.

- Gecko-SL ensures signal integrity under thermal cycling
- High pin density supports complex control architectures
- Proven vibration tolerance for critical onboard processing units



APPLICATION

LAUNCH SYSTEMS

Every launch demands flawless connections from ignition to orbit. Harwin components deliver mechanical resilience and electrical integrity through shock, vibration, and intense pressure. Trusted in mission-critical control and monitoring systems, our interconnects keep power and data secure through lift-off and beyond – where failure simply isn't an option.

01

TELEMETRY & DATA ACQUISITION SYSTEMS

PRODUCTS: GECKO-SL, KONA

Launch telemetry demands absolute reliability under vibration and shock. Harwin's Gecko-SL and Kona connectors ensure continuous data and power flow from onboard sensors and control units through intense launch phases and rapid environmental change.

- Gecko-SL and Kona provide high-vibration resilience and secure latching
- Compact designs optimise signal density and system weight
- Proven performance for data integrity during launch and ascent

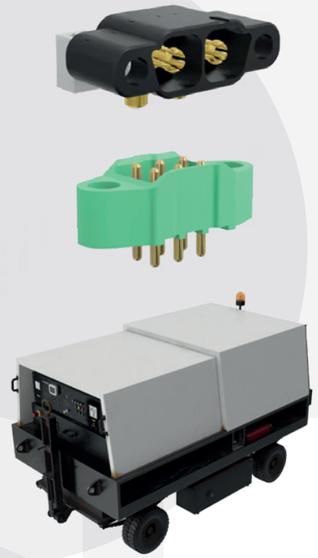
02

GROUND POWER UNITS

PRODUCTS: KONA, M300

Ground systems depend on rugged, high-current connections to safely energize and monitor launch vehicles. Harwin's Kona and M300 series deliver robust, high-power capability with secure mating and easy serviceability under demanding ground operations.

- Kona and M300 handle high current loads with minimal loss
- Durable housings resist mechanical stress and harsh handling
- Reliable performance in fluctuating ground-support environments



03

POWER CONDITIONING & CONVERSION

PRODUCTS: DATAMATE 3-ROW

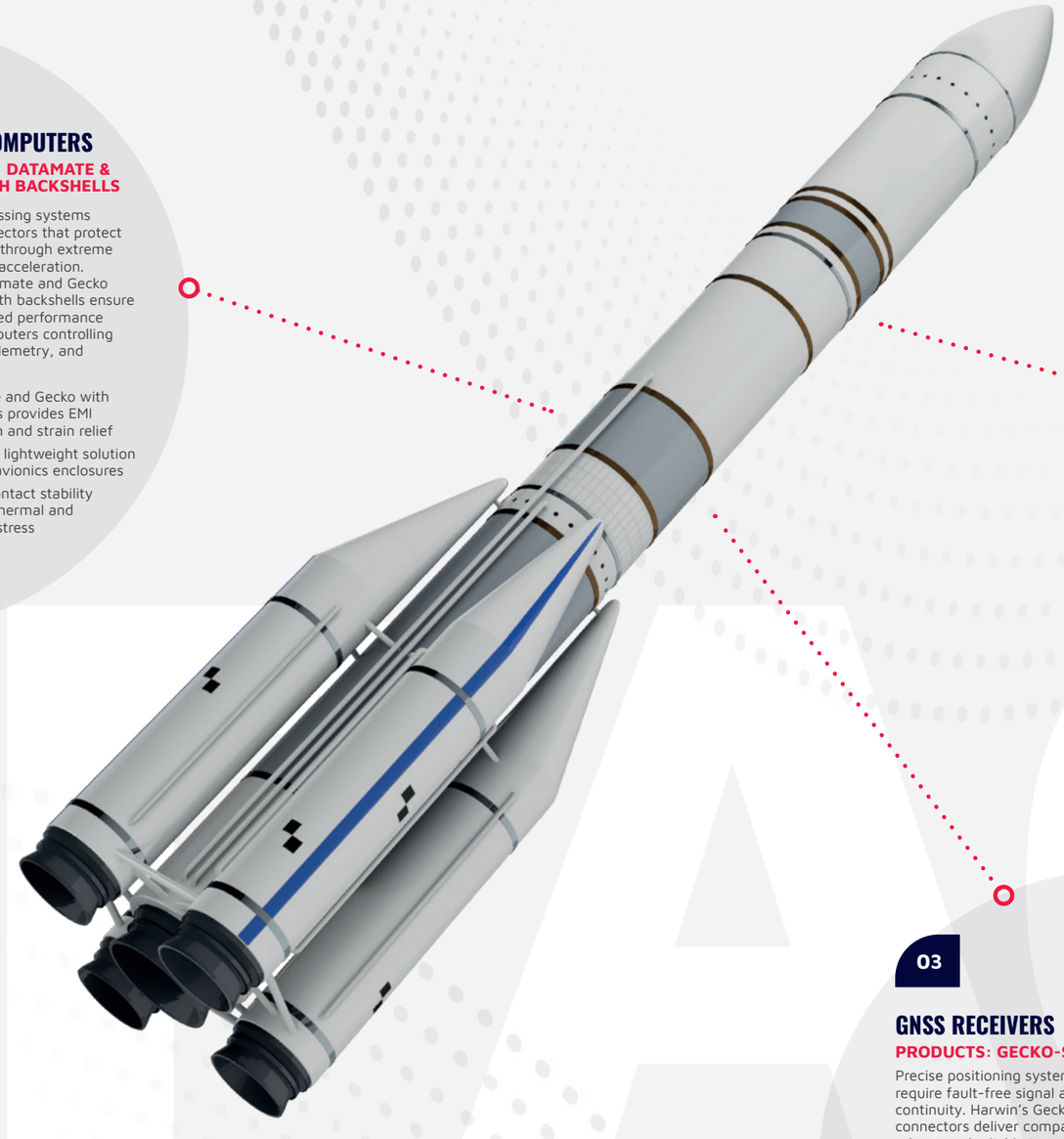
Efficient launch power systems rely on stable, fault-free electrical connections. Harwin's Datamate 3-Row connectors provide dependable performance in converters and distribution units subjected to extreme vibration and temperature variation.

- High-density formats optimise space in compact control modules
- Excellent contact retention for sustained current flow
- Proven endurance across full launch vibration profiles

APPLICATION

ROCKETS

Rockets test every limit of engineering. Harwin connectors meet that challenge head-on – maintaining signal strength and electrical stability through heat, acceleration, and vibration. Whether in propulsion systems or onboard avionics, our high-performance interconnects combine strength with precision to keep mission control linked to every vital function from launch to space.



01

FLIGHT COMPUTERS

PRODUCTS: DATAMATE & GECKO WITH BACKSHELLS

Rugged processing systems demand connectors that protect data integrity through extreme vibration and acceleration. Harwin's Datamate and Gecko connectors with backshells ensure secure, shielded performance for flight computers controlling navigation, telemetry, and propulsion.

- Datamate and Gecko with backshells provides EMI protection and strain relief
- Compact, lightweight solution ideal for avionics enclosures
- Proven contact stability through thermal and dynamic stress

02

INERTIAL MEASUREMENT

PRODUCTS: KONA

Accurate navigation relies on stable power delivery to sensitive sensors. Harwin's Kona connectors provide high-current capability and exceptional mechanical robustness for inertial measurement systems operating under heavy vibration and acceleration loads.

- Kona series delivers reliable high-current transmission
- Secure mating design resists vibration and shock
- Durable contacts ensure steady sensor operation throughout flight

03

GNSS RECEIVERS

PRODUCTS: GECKO-SL

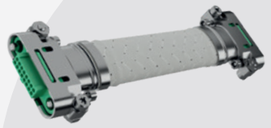
Precise positioning systems require fault-free signal and power continuity. Harwin's Gecko-SL connectors deliver compact, robust, and reliable interconnect solutions for GNSS receivers exposed to vibration, temperature, and radiation extremes.

- Gecko-SL ensure signal clarity and electrical stability
- Lightweight, rugged construction suits space-constrained assemblies
- Proven reliability for continuous data in dynamic flight conditions

APPLICATION

GROUND CONTROLS

Every mission begins – and stays on course – from the ground. Harwin's durable interconnects ensure stable data, power, and communication links in control, telemetry, and tracking systems. Designed for dependability in demanding environments, our products keep operations connected and responsive, supporting every stage of spacecraft management from launch to landing.



01

RADAR TRACKING

PRODUCTS: GECKO WITH BACKSHELL

Radar and telemetry stations demand high-integrity connections for uninterrupted data flow. Harwin's Gecko connectors with backshells provide EMI protection and vibration resistance, ensuring stable signal transmission in mission-critical ground tracking systems.

- Gecko with backshells offers superior shielding and cable strain relief
- Compact, lightweight design ideal for dense radar assemblies
- Proven signal reliability under vibration and environmental stress

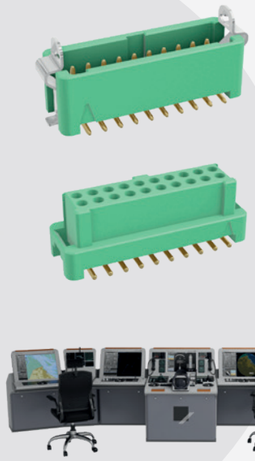
02

MISSION CONTROL CONSOLES PRODUCTS

PRODUCTS: GECKO LATCH

Control room hardware depends on reliable interconnects to sustain communication and command functions. Harwin's Gecko Latch connectors deliver compact, secure, and maintenance-friendly solutions for consoles managing mission telemetry, tracking, and data flow.

- Gecko Latch ensures quick, positive engagement and retention
- Compact format supports dense electronics layouts
- Reliable contact integrity for 24/7 operational performance



03

LAUNCH CONTROL

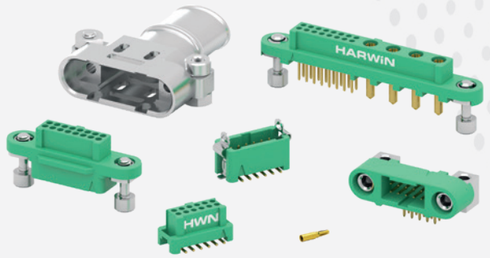
PRODUCTS: GECKO-SL, KONA

Harwin's Gecko-SL and Kona connectors provide rugged, high-reliability performance for critical launch control systems. From power distribution to command networks, they ensure uninterrupted operation under vibration, thermal, and mechanical stress.

- Gecko-SL and Kona maintain secure power and signal integrity
- Robust housings withstand heavy operational loads
- Proven performance for repeated pre-launch and ignition cycles

TECHNICAL SPECIFICATIONS

MICRO-MINIATURE CONNECTORS FOR SWAP-C OPTIMISATION

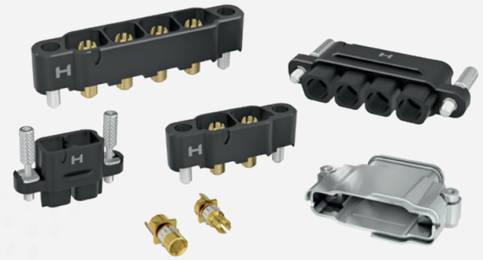


The Gecko series are micro-miniature, low-profile interconnects designed for space, weight, and power (SWaP) optimization. These dual-row cable-to-board and board-to-board connectors are ideal where PCB real estate is at a premium. The range includes standard latching, Screw-Lok (Gecko-SL), and Gecko-MT mixed-technology variants that integrate high-power contacts into the compact housing.

Scan to view the full range and for further information:

SPECIFICATIONS	
Pitch	**1.25mm**
Current Rating	**2A (signal contacts)**
Maximum Current (MT)	**10A (power contacts)**
Temperature Range	**-65°C to +150°C**
Vibration/Shock	**Tested to 20G vibration and 100G shock**
Durability	**1,000 mating cycles**
Contact Design	**Six-finger Beryllium Copper**
Housing Material	**PA4T**
Fixing Options	**Jackscrews, latches, quick-mating bayonet**
Outgassing	**TML = 0.68%, CVCM = 0.01%**

HIGH RELIABILITY & HIGH CURRENT MAXIMUM POWER CONNECTORS



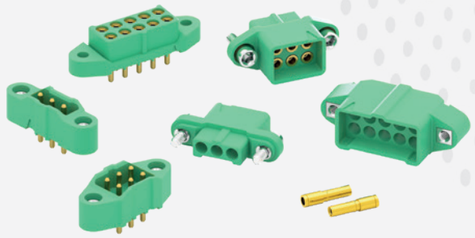
Kona is Harwin's maximum power, high-reliability connector line, built on an 8.50mm pitch. It is currently offered in single-row 2, 3, and 4-contact options for vertical cable-to-board or cable-to-cable connections. The series is designed explicitly for leading-edge current transmission and power density in critical applications such as battery management and motor drive systems.

Scan to view the full range and for further information:

SPECIFICATIONS	
Pitch	**8.50mm**
Current Rating	**Up to 60A per contact**
Working Voltage	**1,500V DC or AC peak**
Temperature Range	**-65°C to +150°C**
Vibration/Shock	**Tested to 20G vibration and 100G shock**
Power Density	**Up to 121A/inch**
Contact Design	**Six-finger Beryllium Copper**
Housing Material	**PPS**
Outgassing	**TML = 0.05%, CVCM = 0.00%**

TECHNICAL SPECIFICATIONS

M300



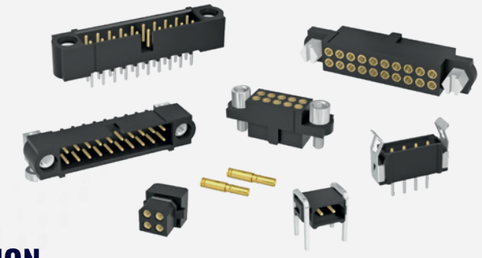
COMPACT POWER SOLUTION, RESISTANT TO VIBRATION & SHOCK

The M300 series is a range of compact, durable power connectors designed for harsh environments and has a 3.00mm pitch. The series has been engineered to provide a high-power connection in a smaller footprint, with the connectors available in single and double-row configurations for up to 10 contacts. It is suited for both wire-to-wire and wire-to-board applications in demanding industrial and defence settings.

Scan to view the full range and for further information:

SPECIFICATIONS	
Pitch	**3.00mm**
Current Rating	**Up to 10A per contact**
Temperature Range	**-65°C to +175°C**
Vibration/Shock	**Tested to 10G vibration and 100G shock**
Durability	**1,000 mating cycles**
Housing Material	**PA4T**
Outgassing	**TML = 0.68%, CVCM = 0.01%**
Fixing Options	**Fitted stainless steel jackscrews**

Datamate®



HIGH RELIABILITY, MINIATURE CONNECTORS FOR SWAP-C OPTIMISATION

Datamate is a field-proven, highly reliable, and flexible miniature connector system built on a 2.00mm pitch. It is available in single, double, and triple-row configurations for various interconnect needs, offering flexibility with fixing options like jackscrews (J-Tek), latches (L-Tek), and 101Lok fast-mating hardware. The series includes Mix-Tek options for combined signal, power, and coax and is compliant with both the British and European defence sector standards 9525-F0033/CECC 75101-008 as well as exceeding the performance required for US MIL-DTL-55302.

Scan to view the full range and for further information:

SPECIFICATIONS	
Pitch	**2.00mm (signal), 4.00mm (power/coax)**
Current Rating	**3A (standard signal)**
Maximum Current (Mix-Tek)	**20A or 40A (power contacts)**
Temperature Range	**-55°C to +125°C**
Vibration/Shock	**Tested to 20G vibration and 100G shock**
Durability	**500 mating cycles (1,000 for T-contact variant)**
Contact Design	**Four-finger Beryllium Copper**
Housing Material	**PPS or PBT**
Outgassing	**PPS: TML = 0.05%, CVCM = 0.00% PA6T: TML = 0.33%, CVCM = 0.07%**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