



# Harwin High-Reliability

## Solutions Guide



**HARWIN**

Defense, spaceflight, heavy industry and aviation applications demand the highest reliability from electronic components. When lives are at stake, or when mission-critical systems are involved, choose Harwin connectors designed to withstand shock, vibration and/or temperature extremes.

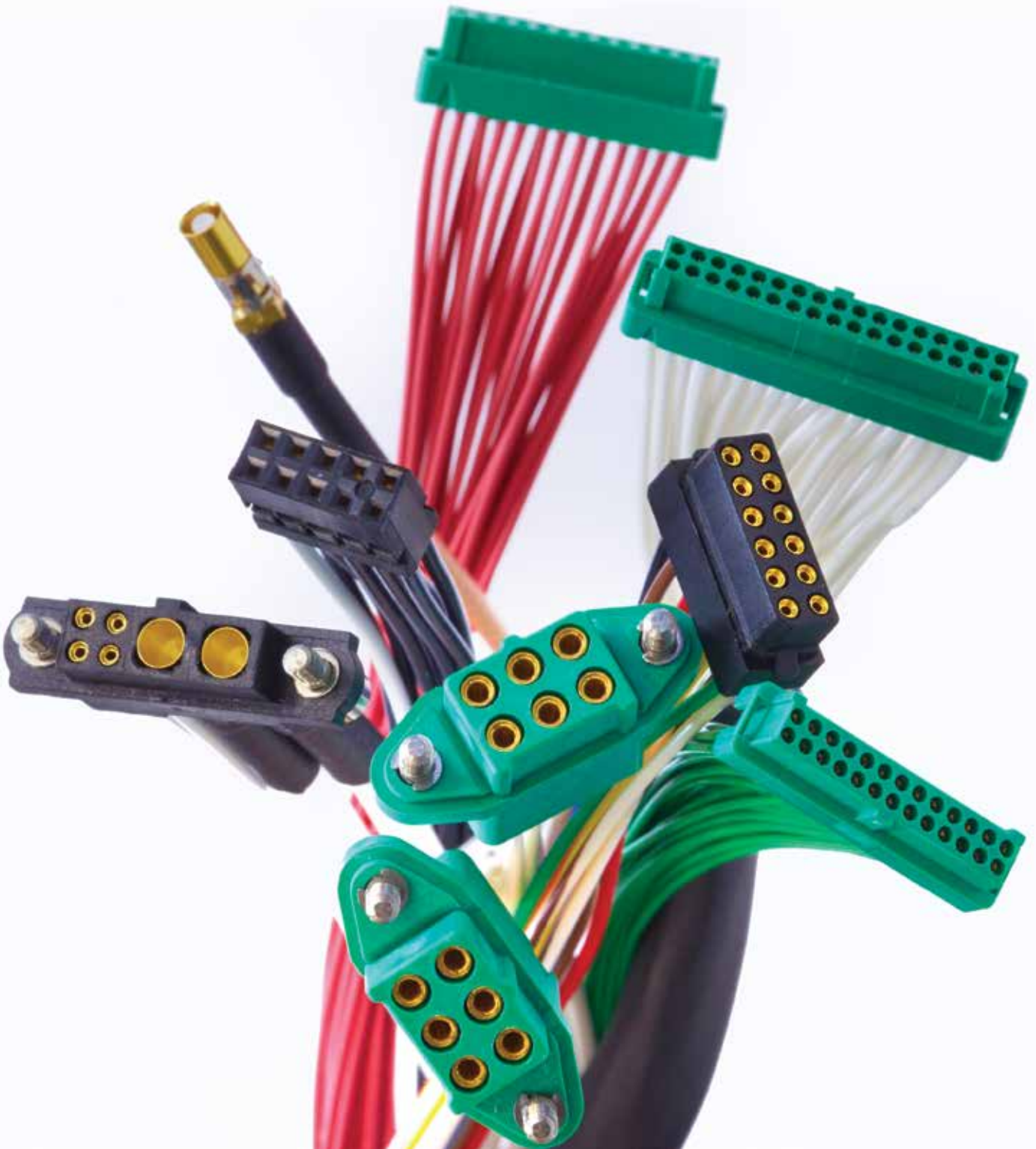
**Reach your local sales team at 1.800.CALL.TTI**

# HARWIN

## Connect with confidence

Harwin's families of high-reliability connector solutions give you options to consider for almost any design, including those where space and weight are at a premium.

We stock a broad and deep inventory of Harwin Datamate, Gecko and M300 connectors, as well as Flex Printed Circuit (FPC) Assemblies, with fast access to the components you need for high-reliability designs.



# Harwin High-Reliability Solutions for Mission-Critical Applications

From easy-to-assemble latching connectors to fixed Screw-Lok connections and through-hole strain relief, Harwin's high-reliability connectors give you choices. Whether you're designing to optimize size, weight and power (SWaP), or to meet NASA or military specifications, Harwin has solutions to fit your needs.



Commercial Aviation



Medical Equipment



UAVs



Test and Measurement



Military Transportation



High-Speed Racing



Satellites



Military Robotics



Outdoor Monitoring



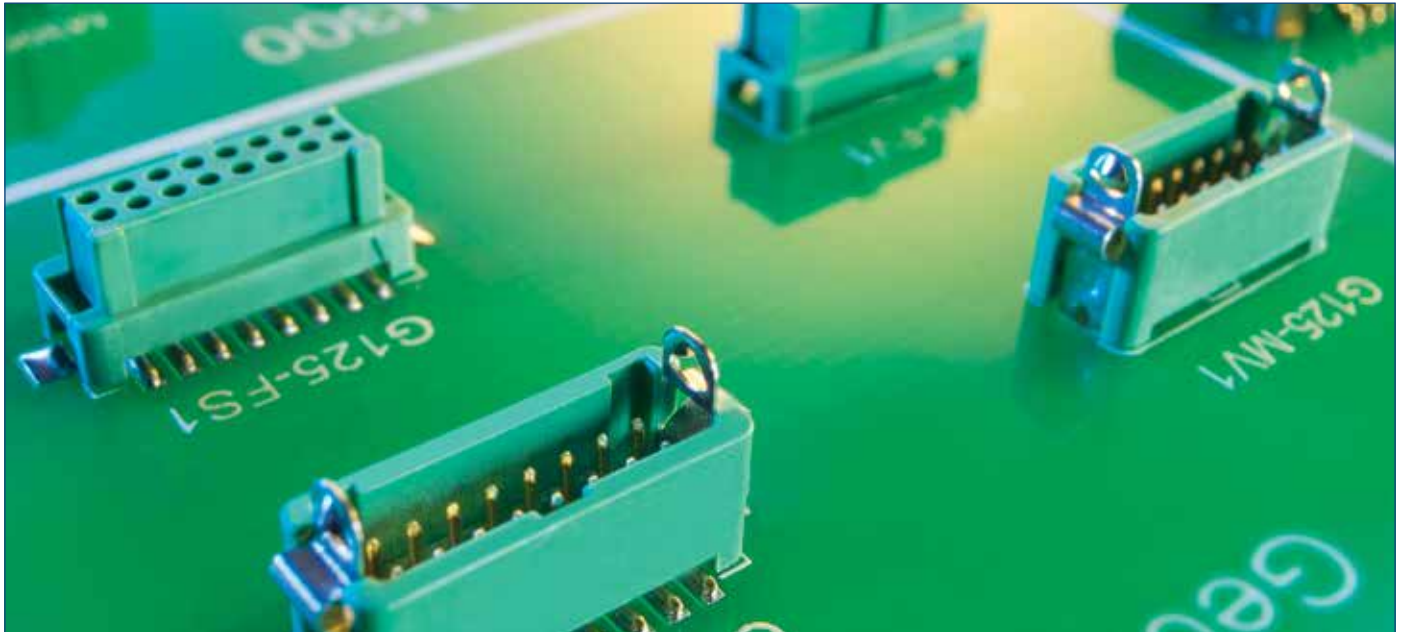
Oil and Gas



Industrial Automation



Renewable Energy



## Gecko 1.25mm Pitch Hi-Rel Connectors

Smaller and lighter than similar microconnectors, the Gecko family is ideal for cable and board mount applications that require space and weight savings without sacrificing performance. Four-fingered, gold-plated Beryllium Copper contacts deliver superb electrical connections in the most extreme environments. Gecko offers a solution to the shock and vibration issues that challenge high-reliability designs. With 2A per contact, an operating temperature up to 150°C, and durable for 1,000 mating cycles, high-reliability is assured. Future-proofed materials with low outgassing that meet NASA requirements for space-flown designs.



### Gecko-SL

For applications that must not fail, Gecko-SL's compact design is up to 45 percent smaller and up to 75 percent lighter than Micro-D alternatives.

- Durable stainless steel screw locks "mate-before-lock", allowing connectors to fully mate before the fixings are engaged
- Through-board and surface-mount available, and ready-made cable assemblies with backpotting
- Reverse and panel mount fixings for full design flexibility



### Gecko-MT

The smallest, lightest mixed-layout connector. Gecko-MT is the ideal choice when size, weight and power (SWaP) considerations are crucial.

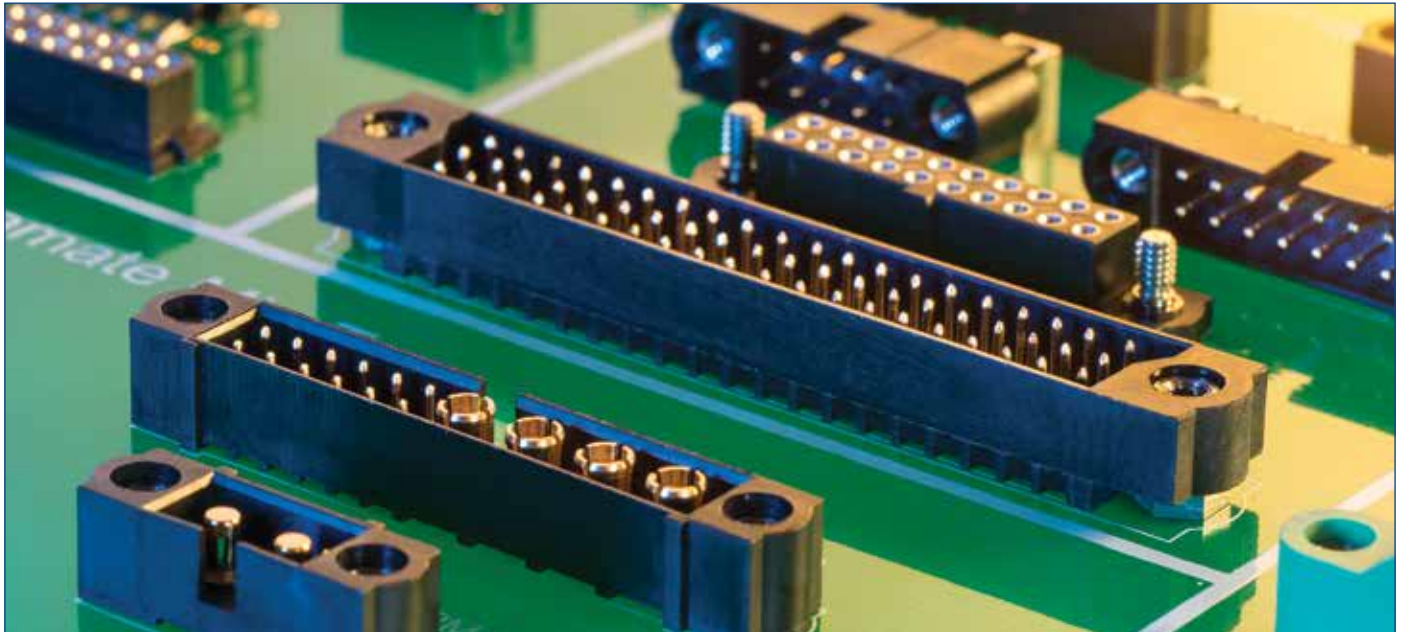
- Combines 1.25mm pitch signal contacts with 10A power contacts
- Male and female connections for both cable and board mounted requirements
- Range specification of 100G shock and 20G vibration



### Gecko Latching

The same high-reliability performance with robust finger-release locking latches for a minimal PCB footprint.

- Retention barbs for through-board connectors and solder hold-downs for SMT to provide additional strain relief
- Ready-made cable assemblies available from stock, or tooling and instruction videos for self-assembly



## Datamate 2.00mm Pitch Hi-Rel Connectors

For your safety-critical applications, trust a connector family that not only gives you more design options, but comes with a proven track record of success in applications where failure is not an option. Harwin's extensive Datamate range provides maximum flexibility and robust, vibration-resistant connections in a small size, with jackscrew and latching options available. Polarized housings reduce the chance of improper mating, and are durable for 500 mating cycles.



### Datamate J-Tek

These robust 2mm pitch connectors include stainless steel jackscrew fixings, providing shock and vibration resistance.

- High pin counts (up to 50 contacts for 2-row and 96 for 3-row)
- Surface-mount, cable-mount and board-mount options available
- Signal contacts capable of 3A per contact
- 101Lok design for fast mate and lock



### Datamate L-Tek

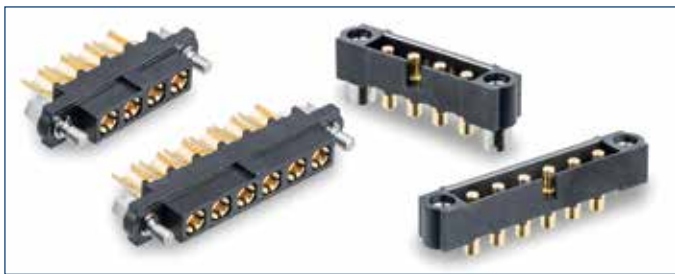
For designs where space is limited, Datamate L-Tek latched connectors provide rapid mating and secure latching with minimal footprint requirements.

- Resistant to vibration and shock
- Single and double row designs
- Signal contacts capable of 3A per contact
- Proven track record in extreme environments

# Datamate **Mix-Tek**

Mixed-technology connectors combine signal, power and coax into one compact connection. Choose from a variety of stainless-steel jackscrew styles and contact options, including 3A signal, 20A or 40A power and 6GHz coax.

These 2mm pitch (signal) and 4mm pitch (power/coax) connectors are ideal where commercial off-the-shelf substitution is possible, with thousands of combinations available in stock. Mix-Tek is capable of withstanding extremes of temperature, shock and vibration.



## Datamate Power

Optimize SWaP with Datamate power connectors, offering 20A or 40A current in a durable, space-saving package.

- Robust Beryllium Copper connections for higher current requirements, set on 4mm pitch
- Popular sizes available from stock
- Ready-made cable assemblies in preset lengths, single and double ended



## Datamate Coax

Combine multiple coax connections into a single, ganged 50 Ohm connector for fast mating and easier assembly.

- Ready-made cable assemblies with RG178 coax available from stock
- Lightweight, space-saving shrouded and polarized housing to protect contacts
- Vibration and shock resistant, with stainless steel jackscrews for added strain relief

## More Power Options



## Datamate T-Contact

Combine Datamate J-Tek connectors with a patented six-finger Beryllium Copper contact to give you exceptional shock resistance (up to 100G) and vibration resistance (40G for 6 hours, 2 hours per axis).

- Rated for up to 8.5A per contact on 2mm pitch
- Heavier gold plating thickness to meet U.S. military avionics requirements
- Extended operating life of 1,000 mating cycles
- Suitable for 22AWG cable; ready-made cable assemblies also available



## M300 3.00mm Pitch Hi-Rel Connectors

Designed for shock and vibration resistance, these 3mm pitch high-reliability connectors are built to handle high current and can withstand operating temperatures up to 175°C.

- Up to 10A per contact,
- Stainless steel jackscrews and gold-plated contacts ready to resist the stress of harsh applications
- Trusted in critical aerospace and defense systems in satellites, launch systems, aircraft and UAVs
- Also suited to oil and gas exploration, robotics and industrial automation applications
- Extended operating life of 1,000 mating cycles



## Kona 8.5mm Pitch Hi-Rel Connectors

Maximum power and performance in extreme conditions for when SWaP (Size, Weight and Power) matters. Capable of 60A continuous current rating and 3000V with rugged fully shrouded contacts. Kona is larger in pitch than Harwin's Datamate and Gecko ranges but still very compact, with up to 48A per centimeter, no space is wasted.

### Increased power with the same high-quality standards and reliability.

- Stainless Steel Mate-Before-Lock Thumbscrews for Ease of Mating and Secure Connection
- Individually Shrouded Contacts Protect Against Physical Damage and Avoids Accidental Touching of Contacts
- 6-Finger Beryllium Copper Contact Design Maintains Electrical Continuity Under Heavy Vibration

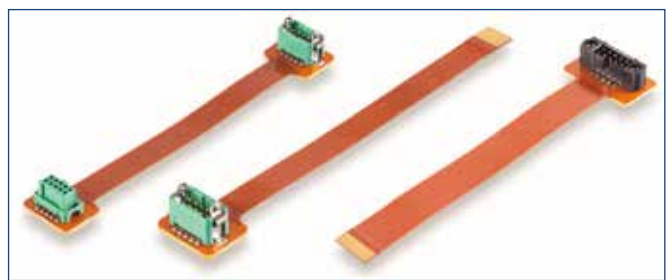
## Backshells & Flex Assemblies



### Metal Backshells for Strength and Shielding

Metal backshells provide a wire-to-board solution for EMI/RFI protection. These lightweight designs can be paired with cable braids to assist with strain relief and mechanical protection for additional performance improvements. The backshells accept connectors fitted with signal, coax and power cables for ultimate flexibility.

Gecko-SL and Gecko-MT backshells are supplied as a two-part design which can easily be fitted after cable assembly construction, to address issues that arise after manufacture. Datamate J-Tek & Mix-Tek backshells are single-piece designs for maximum protection and strength in extreme applications. PCB or panel mount options are also available for a fully-shielded connection.



### Flex Printed Circuit Assemblies

Flexible Printed Circuits (FPC) from Harwin give you even more design options, combining the "go-anywhere" routing ability of cable with a low-profile SMT connector space saving. Replacing standard cable connectors with flex-mounted SMT connections allows for closer PCB stacking and a tighter bend radius, and enables right-angled connections.

Choose between Datamate J-Tek for 2mm pitch connectors and 1mm pitch FPC, or Gecko for 1.25mm pitch connectors and 0.5mm pitch FPC. Stainless-steel jackscrews for Datamate connectors and latches for Gecko connectors ensuring secure connections even under stress. Standard 10-contact assemblies in single- and double-ended designs are available from stock; contact your TTI Specialist to specify other options.



# Why Buy from the Specialist in Electronic Component Distribution?

Founded in 1971, TTI has steadily grown to become the world's leading interconnect, passive, electromechanical and discrete component distributor in the industry. The company was founded on the premise that passive component purchasing could be made more efficient by offering product specialization, customer-driven service, and proprietary supply chain solutions.



## Knowledgeable Product Experts

Specialization allows TTI product managers to provide much better product insight to support your manufacturing from design through production. TTI Specialists' commitment to our customers is key to our continued success.



## Broader and Deeper Inventories

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