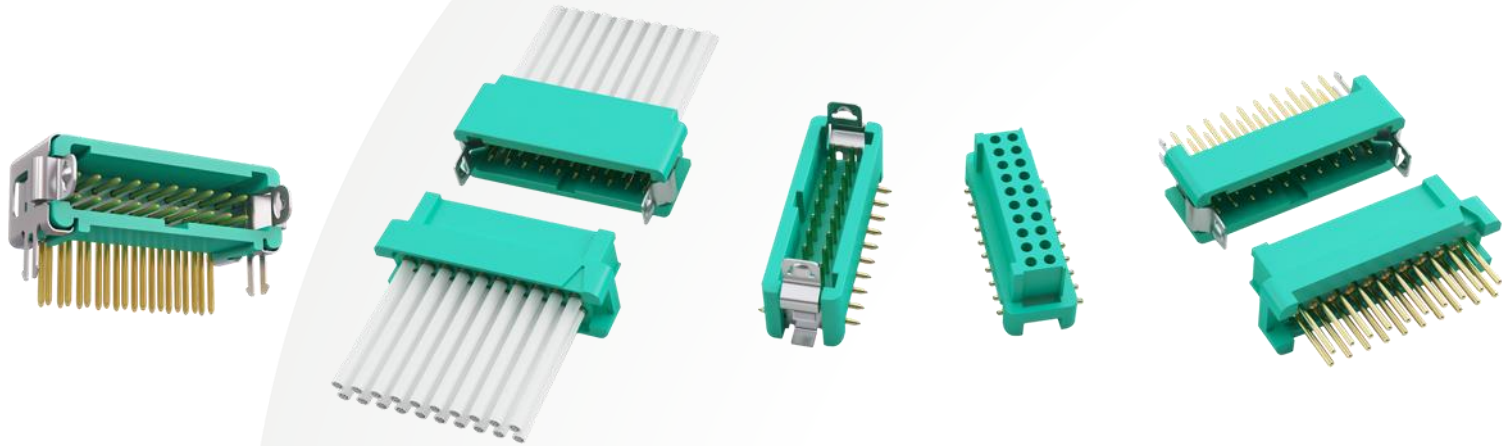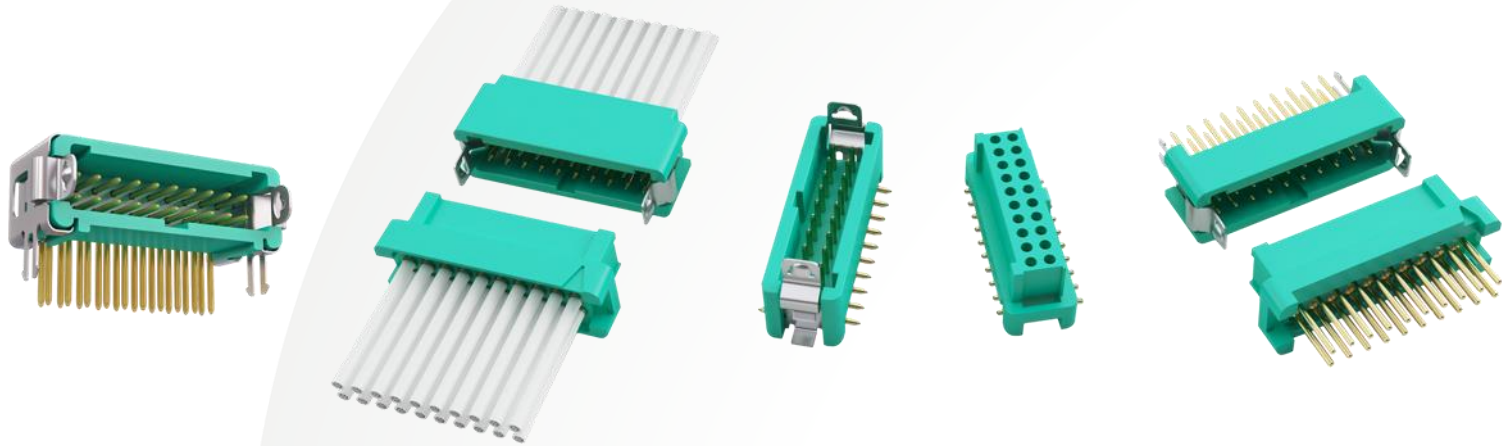HRi
RANGE

HARWIN

gecko®
Gecko-SL

// WWW.HARWIN.COM

THE CURRENT RANGE

Harwin's Gecko (G125 series) connectors provide a low profile, dual row interconnect solution for cable-to-board, cable-to-cable and board-to-board. The product is ideally suited for stacking and cable mating in areas where PCB real estate is at a premium.

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![gecko logo]

TRUE METRIC SYSTEM

Gecko is a 1.25mm pitch connector, maintaining the selection of Harwin High-Reliability connectors at metric pitches (as demonstrated by Datamate 2mm or 4mm pitch, M300 at 3mm pitch and Kona at 8.5mm pitch).

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THE HEART OF THE CONNECTOR SYSTEM

The patented single piece 4-fingered Beryllium Copper female contact gives high electrical performance and sustained mechanical durability. The crimp barrel meets IPC-A-620 specifications. It tolerates extremes of temperature, and withstands high vibration and shock. These contacts are precision-turned on state-of-the-art equipment at the UK headquarters, and plated with a gold finish to resist multiple insertions.

GECKO-SL - SCREW-LOK FIXING HARDWARE
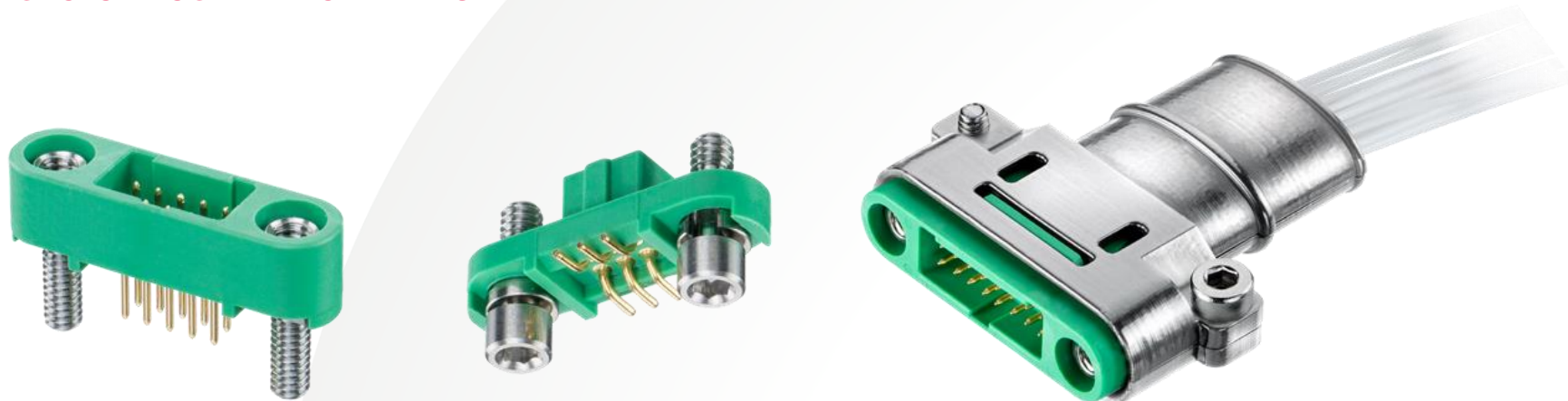
Gecko-SL (short for Gecko Screw-Lok) is an evolution from the Gecko Latch product. The latching system has been replaced with a robust screw-lok connection. This gives the additional benefits of simpler access, stronger fixings, and panel mount options.

The screw-lok fixings are manufactured in stainless steel for strength and corrosion resistance, with M2 threads. These add just 8.90mm to the overall connector length compared to Gecko Latch.

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GECKO-SL - SIZE & WEIGHT SAVINGS

Up to 45%
footprint saving on Micro-D

## Up to 75%
weight saving on Micro-D
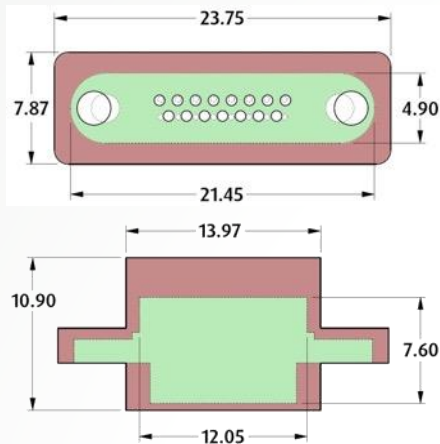
Green: Gecko-SL

Red: Micro-D

The small size of Gecko-SL enables a reduction in the real estate on the PCB taken up with connectors. This is up to 45% saving over Micro-D connectors. The space-saving obtained with Gecko-SL connectors gives a significant benefit over existing high-reliability connectors, reflected in both the footprint and the weight of the connectors being drastically reduced. Gecko-SL also offers an increased pin density compared to Micro-D.
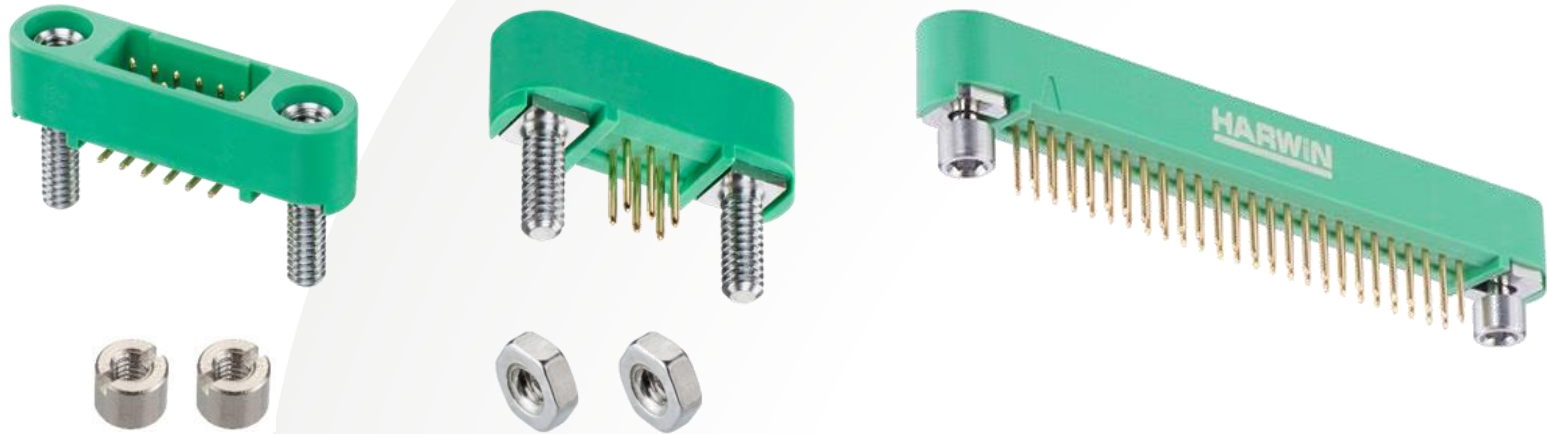
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PCB MOUNTED VARIANTS - FEMALE VERTICAL
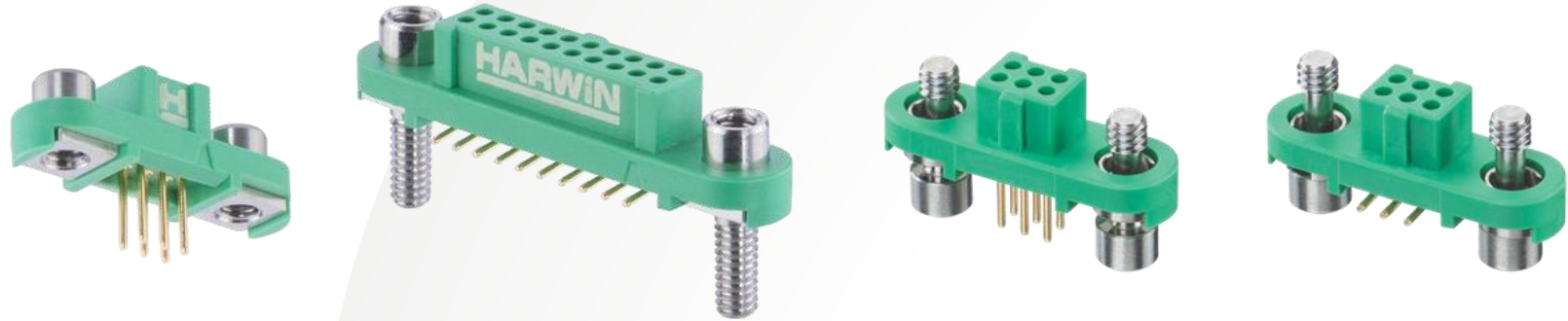
Available in Throughboard and SMT designs in pin counts of 6, 10, 12, 16, 20, 26, 34 and 50 contacts. The captive screws with hex socket heads prevent slipping during assembly. The design of these captive screws allows for 'Mate-before-Lock' – connectors can be fully mated before the screws need to be engaged. This provides for faster and easier assembly.

Reverse Fix options are also available, providing board mount screws to fasten to the PCB for added strain relief on termination solder joints.

PCB MOUNTED VARIANTS - MALE VERTICAL

Available in Throughboard and SMT designs in pin counts of 6, 10, 12, 16, 20, 26, 34 and 50 contacts. The board mount fixings provide strain relief for increased board retention and solder joint strain relief. Board mount nuts are available in two styles, and are ordered separately:

- Slotted Nut: G125-4510000B
- Hexagonal Nut: G125-4500000B

Both Throughboard and SMT designs also come without board mount, or with Reverse Fix floating screw-loks (with hex socket heads).
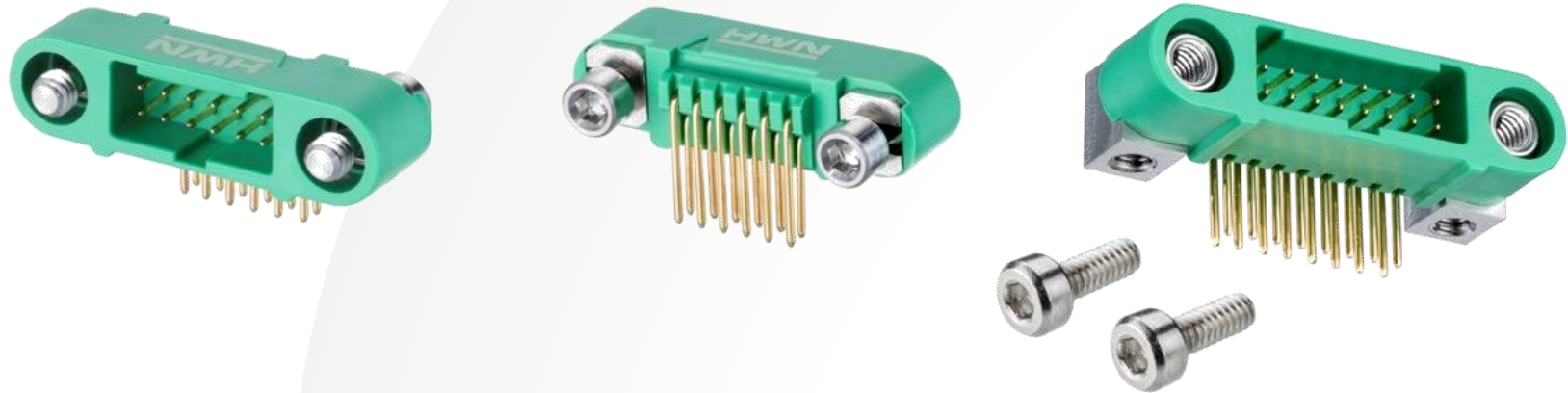
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PCB MOUNTED VARIANTS - MALE HORIZONTAL

Available in Throughboard designs in pin counts of 6, 10, 12, 16, 20, 26, 34 and 50 contacts. The board mount fixings provide strain relief for increased board retention.

Board mount bolts are available, and are ordered separately:

- Hexagonal Socket Bolt: G125-4520000B

The Throughboard designs also come without board mount, with Reverse Fix floating screw-loks (with hex socket heads).

CABLE MOUNTED VARIANTS – HOUSINGS

The Male and Female Cable Housings include the fixing hardware and are also available in pin counts of 6, 10, 12, 16, 20, 26, 34 and 50 contacts. Both styles are additionally available with Reverse Fix screw fixings.

Contacts are available for order separately, not as part of a kit.

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CABLE MOUNTED VARIANTS – PANEL MOUNT

Rear Panel Mount Male

Front Panel Mount Female

The Male and Female Cable Housings can also be specified with panel mount fixing hardware, in the same pin counts of 6, 10, 12, 16, 20, 26, 34 and 50 contacts. Front and Rear panel mount styles are available. Both styles will require additional hardware, available separately – nuts for the front panel mount, and bolts for the rear panel mount.

Contacts are available for order separately, not as part of a kit.

CABLE HOUSING FEATURES


The No. 1 contact position is identified with a triangle-shaped indent on the rear wall of the cable housings. Numbering then runs along the row, jumps back and starts again at the contact beside No. 1, and runs along the second row. A 2.5mm deep potting wall is included on the housing for backpotting completed cable assemblies.

Standard cable assemblies are supplied already backpotted.

EMC SHIELDING - METAL BACKSHELLS
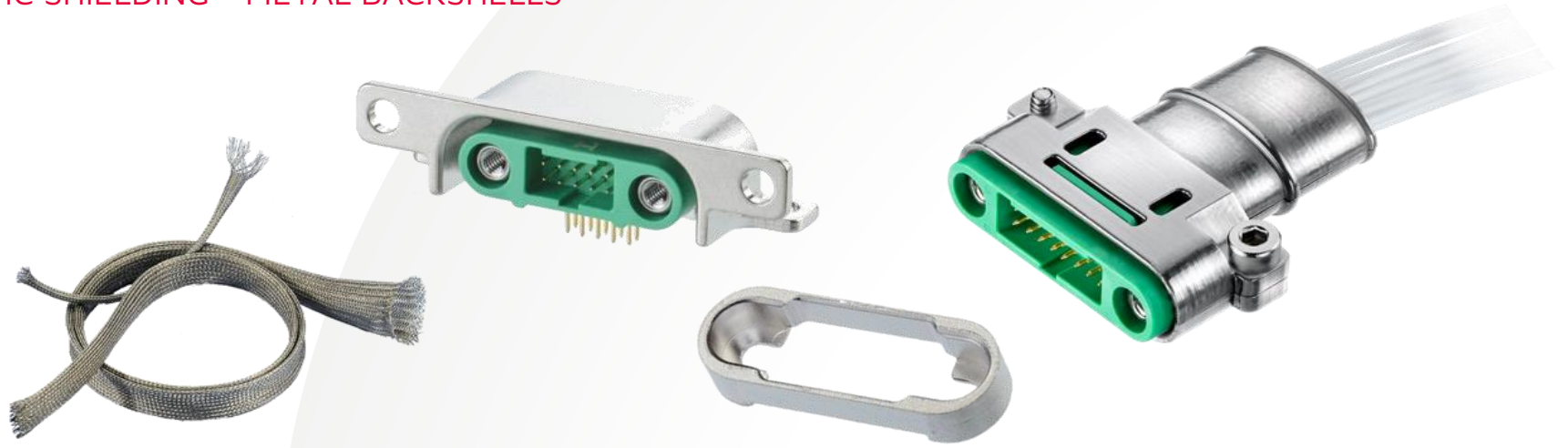
The strong and lightweight machined aluminium backshells provide additional strain relief. They are designed to accommodate flexible, abrasion resistant, metal braiding and are supplied with tie-bands to attach such braiding to the shell. The backshells, together with the braiding, provide shielding for enhanced electrical continuity and effective EMI/RFI protection.

Mating backshells for use with vertical and horizontal board-mounted connectors are also available.

FLEXIBLE CABLING OPTIONS
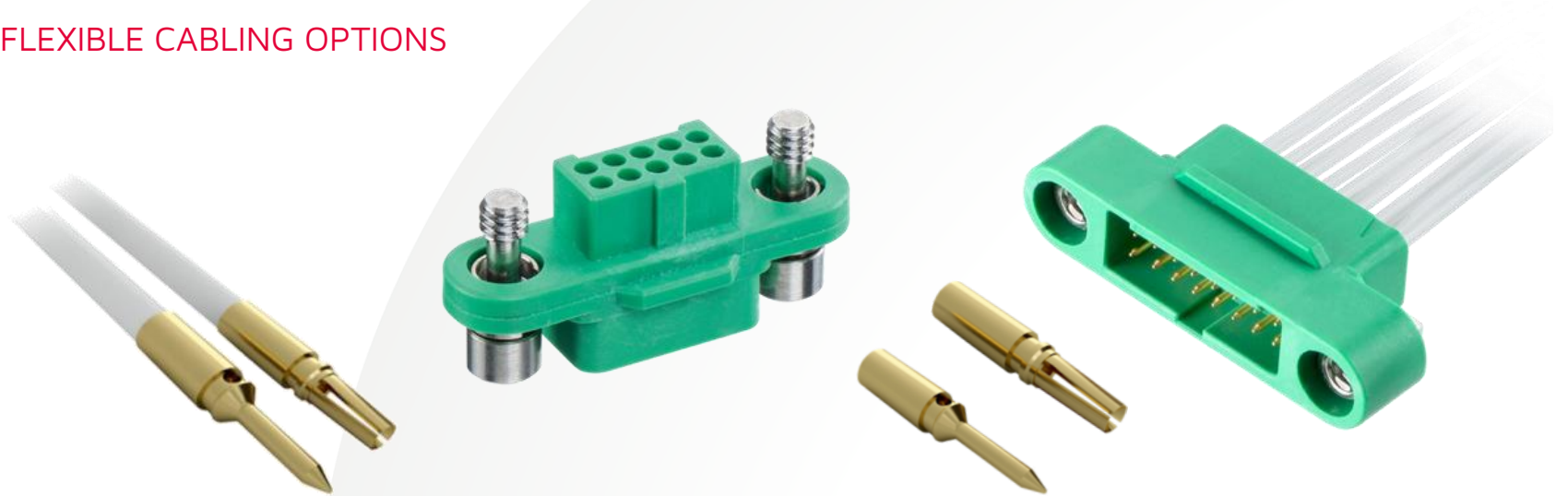
Gecko-SL cable connectors are supplied in a variety of options to provide maximum flexibility for user preferences.

- Separate components – loose housings & crimp contacts: manufacture your own cable assemblies, using the hand tooling available
- Crimp contacts are available with wires pre-assembled, in standard cable lengths 150mm, 300mm and 450mm
- Stocked full cable assemblies, single and double ended, in standard cable lengths 150mm, 300mm and 450mm
- Complete cable harness service – talk to one of our Technical Experts for advice and quotations

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TAPE AND REEL PACKAGING

All Gecko-SL products for PCB mounting are available in Tape and Reel format, for automated PCB assembly. All connectors are packaged with a pick-and-place cap for vacuum nozzles.

APPLICATION TOOLING

Contact positioner:
Z125-901

Hand Crimp Tool:
Z125-900

Contact Insertion
/Extraction tool:
Z125-902

All hand tools required to manufacture cable assemblies are available from Harwin:

- Hand Crimp tool Z125-900, and Positioner Z125-901 (both are required for correct crimping)

- Insertion/Removal Tool Z125-902 (for correctly inserting or removing the crimped contacts into a housing)
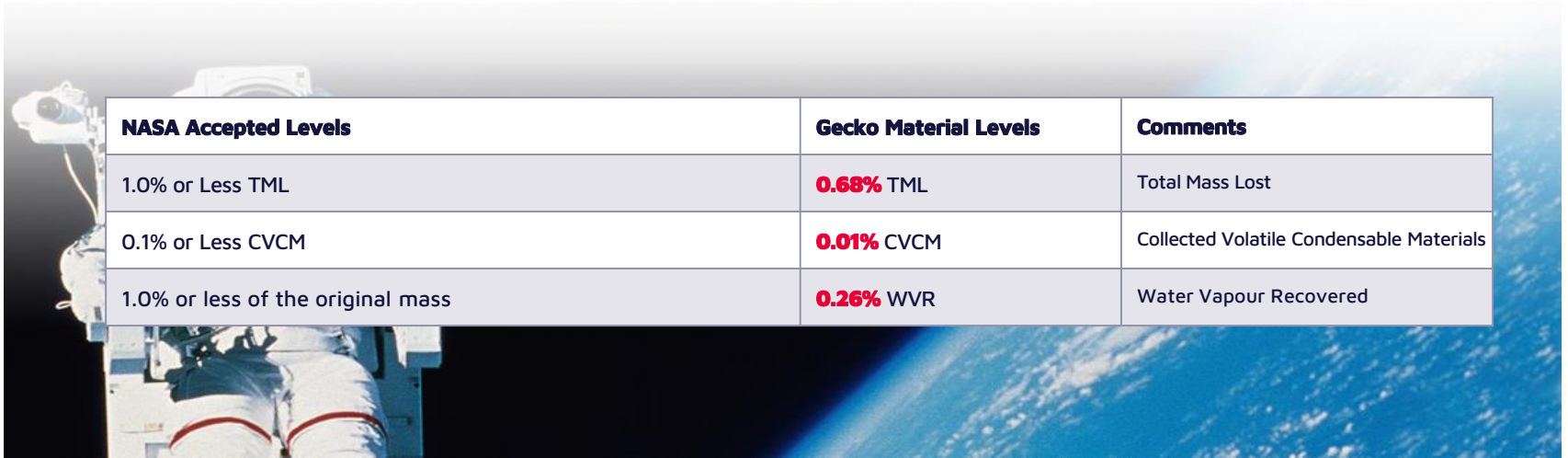
- Click here for the Gecko crimping video

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PERFORMANCE – ELECTRICAL SPECIFICATIONS

Current Rating	**2A**	EIA-364-70
Contact Resistance	20mΩ	EIA-364-06
Insulation Resistance	1,000MΩ	EIA-364-01

The high reliability design of the Gecko-SL connector means little compromise on current rating. The rating of 2.8A on an individual contact and 2.0A on all contacts simultaneously provides a high current for a reduced footprint. Other performance ratings are comparable or exceed the larger connectors.

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LOW OUTGASSING

NASA Accepted Levels	Gecko Material Levels	Comments
1.0% or Less TML	**0.68%** TML	Total Mass Lost
0.1% or Less CVCM	**0.01%** CVCM	Collected Volatile Condensable Materials
1.0% or less of the original mass	**0.26%** WVR	Water Vapour Recovered

The Nylon 4T plastic used in the construction of Gecko housings has a low outgassing index. Details can be found on the Harwin Outgassing statement.

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WHAT IS THE PERFORMANCE RATING?

	Performance Levels	Test Standards
Operating Temperatures	**-65°C to +150°C**	EIA-364-32
Salt Spray	48 Hours	EIA-364-26
Humidity	65/150/56 days at 95% Relative Humidity	EIA-364-31
Vibration	**20g** – No discontinuity greater than 1µs	EIA-364-28
Shock	Z axis 100g 6m/s - No discontinuity greater than 1µs	EIA-364-27

The wide operating temperature range makes Gecko SL connectors suitable for a wide variety of harsh environments. Durability is set at 1,000 mating operations minimum, and has been tested up to 1,500 operations.

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ENVIRONMENTALLY FRIENDLY MATERIAL

The materials used in the Gecko SL connectors do not contain any Lead, Brominated Flame Retardants, Red Phosphor (PFOS/PFOA) or Antimony. They are fully RoHS Compatible and contain no REACH SVHCs.

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AWARD-WINNING PRODUCT

The Gecko connector system has won multiple industry awards:

- Elektra Awards (2013) – Winner of "Passive & Electromechanical Product of the Year" category;

- EE Times/EDN Ace Awards (2014) – Winner of "Passive, Interconnects and Electromechanical" category;

- ECN Impact Awards (2014) – Winner of "Packaging and Interconnects" category.

MARKETS

Many markets have a requirement for rugged, high-reliability connectors, with the additional requirement for miniature size and minimal weight restrictions. Built to the same exacting standards as our Datamate range, Gecko delivers in these industries:

- UAVs
- Autosport
- CubeSats
- Robotics
- Oil & Gas

HIGH RELIABILITY
SMALLER FOOTPRINTS

Learn more about our other ranges

Find out more about our full range
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