

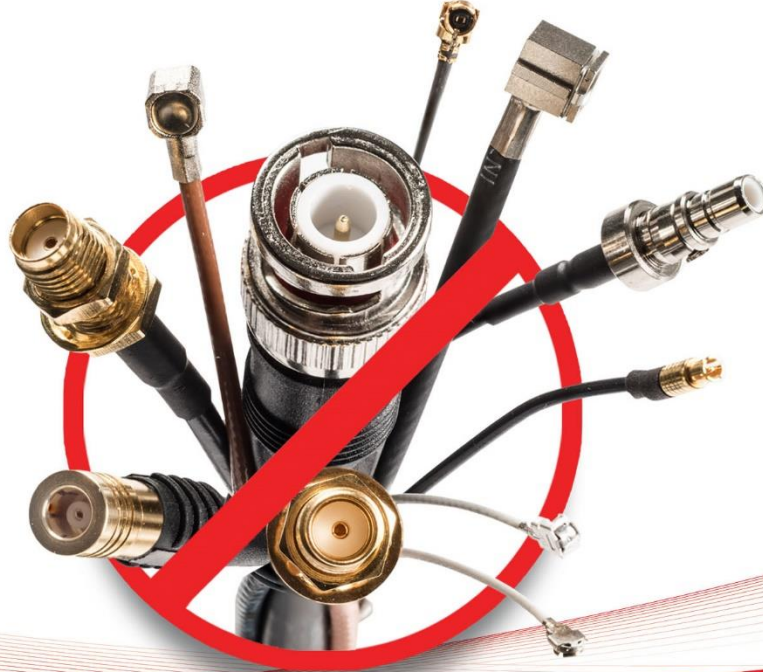
Datamate **Coax**



HARWIN

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Traditional solution

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Traditional RF contacts are typically packaged as single bayonet or screw type connections. These can be suitable for single connection requirements, but prone to misconnection or mis-mating when multiple connections are required. The more connections required, these issues and risks are multiplied. Assembly time also increases with individual screw-type connectors slowing down assembly speeds.

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4mm pitch **ganged connectors**



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Datamate Coax solutions are a 4.00mm pitch, Ganged connector system. Multiple coax connections are faster and more secure than both the traditional solutions and competitor's ganged connector products. These connectors are a high-reliability compact design, capable of increasing production assembly speeds with just one connection.

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The **heart** of the connector

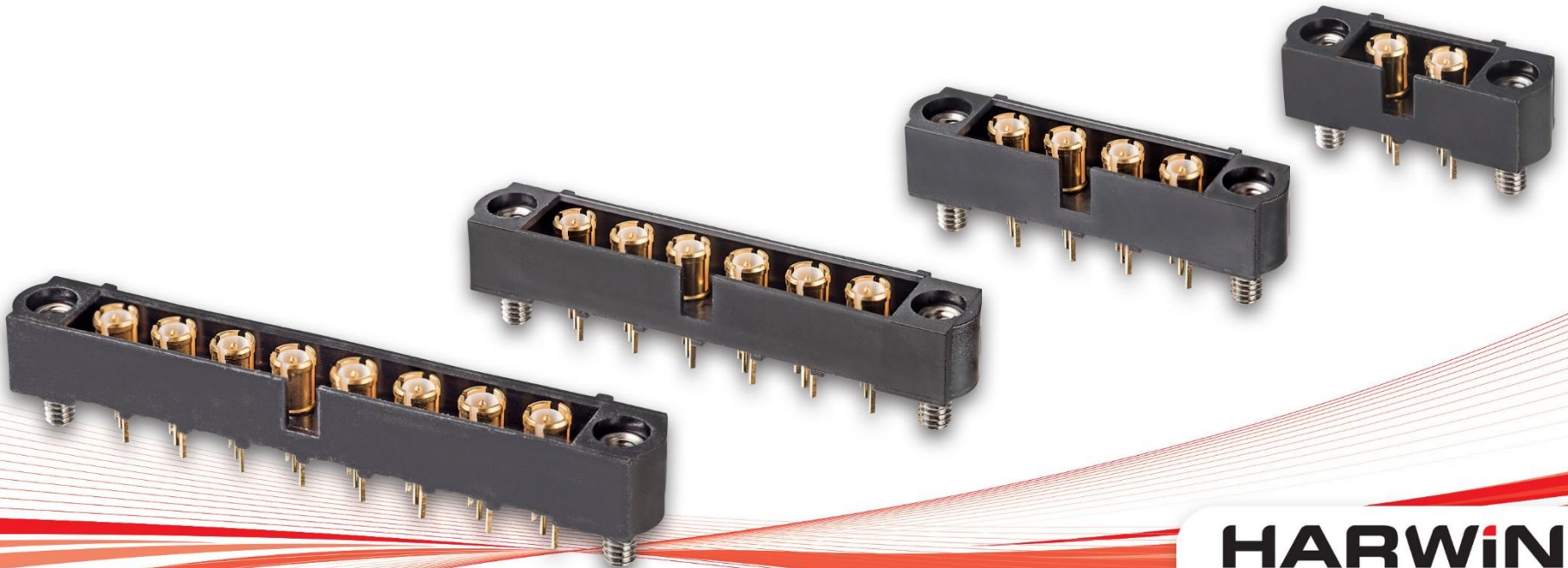


HARWIN

Datamate Coax uses high-quality, high-reliability 50Ω gold-plated coaxial contacts. These contacts are precision-turned Beryllium Copper parts manufactured at our UK headquarters, ideal for vibration environments and multiple insertions. The insulator material is PTFE, to withstand high temperatures.

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Plug connectors - Male PC Tail, **Vertical** Layout

**HARWIN**

For the Vertical connectors in the Datamate Coax range, 4 contact counts in two PC Tail sizes are stocked for short lead-times:

3mm PC Tail connectors:

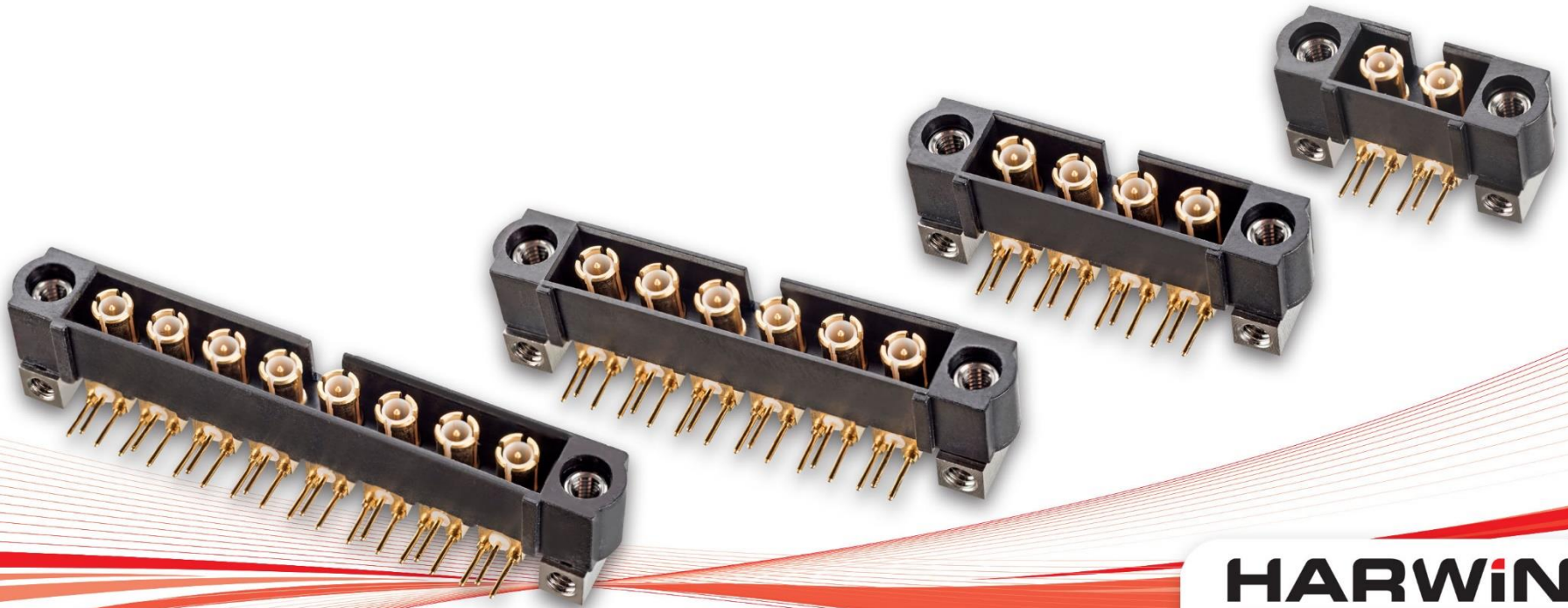
- [M80-MV311M2-02](#)
- [M80-MV311M2-04](#)
- [M80-MV311M2-06](#)
- [M80-MV311M2-08](#)

4.5mm PC Tail connectors:

- [M80-MV312M3-02](#)
- [M80-MV312M3-04](#)
- [M80-MV312M3-06](#)
- [M80-MV312M3-08](#)

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Plug connectors - Male PC Tail, **Horizontal** Layout

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Horizontal connectors are also available in 4 contact counts in two PC Tail sizes – giving flexibility in stocked product:

3mm PC Tail connectors:

- [M80-MH313M5-02](#)
- [M80-MH313M5-04](#)
- [M80-MH313M5-06](#)
- [M80-MH313M5-08](#)

4.5mm PC Tail connectors:

- [M80-MH314M5-02](#)
- [M80-MH314M5-04](#)
- [M80-MH314M5-06](#)
- [M80-MH314M5-08](#)

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Plug **Accessories** – For vertical and horizontal layouts



For Horizontal



For Vertical

Board fixings for the Male Vertical and Horizontal connectors are sold separately to the connectors:

For Horizontal connectors:

- 3.5mm Slotted Bolt: [M80-2260000B](#)
- 5mm Slotted Bolt: [M80-2270000B](#)
- 5mm Hex Socket Bolt: [M80-2320000B](#)

For Vertical connectors:

- Slotted Nut: [M80-2130000B](#)
- Hexagonal Nut: [M80-2430000B](#)

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Jack connectors – Female Cable for **tailored cable assemblies**

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Cable connectors are suitable for RG178 or similar $\varnothing 2\text{mm}$ coax cable, and are stocked in kits of contacts and housings. Available in 4 contact counts to match the previous Male connectors.

- [M80-FC305F1-02](#)
- [M80-FC305F1-04](#)
- [M80-FC305F1-06](#)
- [M80-FC305F1-08](#)

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Ready-made Female Cable assemblies, Off-The-Shelf

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Fully complete Cable Assemblies can be purchase direct from stock, in a choice of single or double end, using RG178 cable:

Single Ended Assemblies:

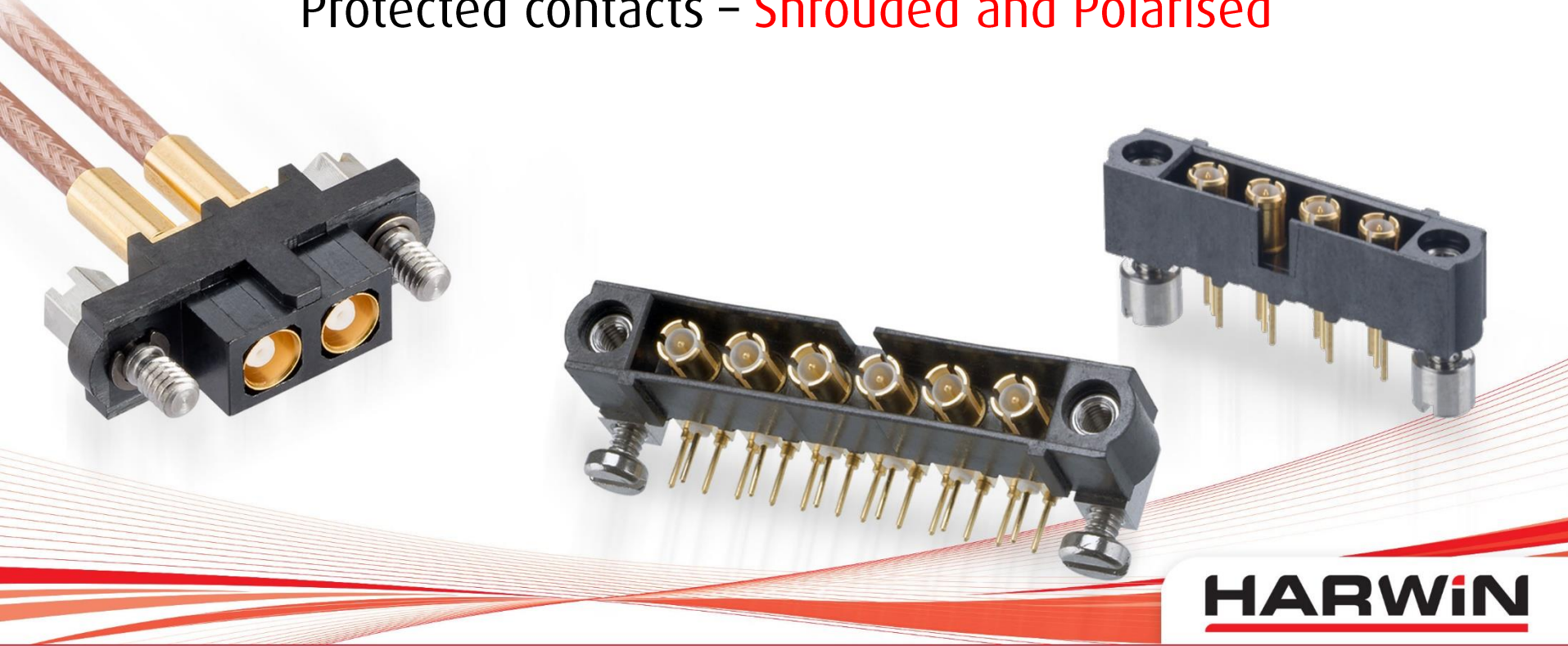
- [M80-FC305F1-02-0150L](#)
- [M80-FC305F1-04-0150L](#)
- [M80-FC305F1-06-0150L](#)
- [M80-FC305F1-08-0150L](#)

Double Ended Assemblies:

- [M80-FC305F1-02-0150F1](#)
- [M80-FC305F1-04-0150F1](#)
- [M80-FC305F1-06-0150F1](#)
- [M80-FC305F1-08-0150F1](#)

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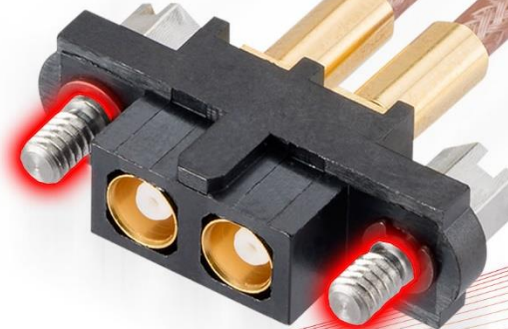
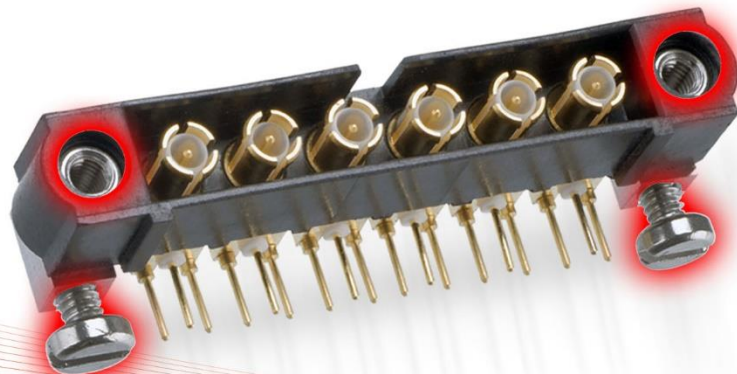
Protected contacts – **Shrouded and Polarised**

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The shrouded housing design protects both male and female contacts prior to, and during, mating cycles. The central polarisation feature eliminates mis-mating due to incorrect orientation. Both features give superior functionality over other ganged coax systems currently available.

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Robust fixings for security and strain relief



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Stainless Steel jackscrew fixings are added for strong and secure mating, both to mating connectors and board-mounting to the PCB. Developed for high-reliability in applications subject to vibration and shock, these jackscrew systems provide excellent robust strain relief.

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Hand Tools for manufacturing cable assemblies

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Harwin also supply the full set of hand tooling required for your own cable assembly manufacture (Instruction Sheets are available on the website):

Crimp Tool: Outer Sleeve:

- [Z80-293](#)

Crimp Tool – Inner Contact:

- [Z80-292](#)

Positioner – Inner Contact:

- [Z80-291](#)

Contact Removal Tool:

- [Z80-290](#)

Datamate **Coax**

Electrical Specifications

Frequency Range	Up to 6 GHz
Impedance	50 ohms
Voltage Standing Wave Ratio (VSWR)	1.05 + (0.04 x Frequency) GHz max
Operating Voltage	180V _{ac} at 500mA

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The Datamate Coax design is capable of a frequency range up to 6 GHz, with an impedance of 50 ohms. Maximum voltage is set at 1,000V_{ac}, and Insulation Resistance within each coax is 10⁶ megaohms. [Test report HT020](#) and [Test report HT052](#) are available from the website.

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Mechanical & Environmental Specifications

Vibration	10g - 6 hours
Shock	100g - 0.006 seconds
Durability	500 mating cycles
Temperature Range	-55°C to +125°C

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The Datamate Coax performs to the same high reliability standard consistent throughout the Datamate range. These specifications make these products the ideal choice for demanding applications.

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Outgassing



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The PPS plastic used in the construction of Datamate Coax housings has a Space heritage. Details can be found in the [Harwin Outgassing support article](#).

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Markets



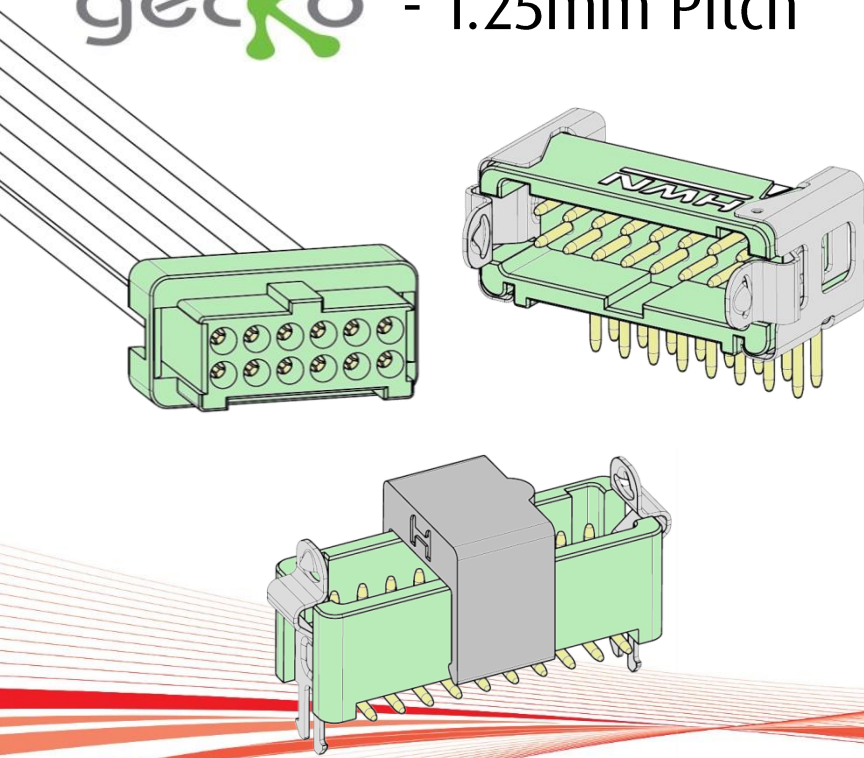
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Many markets have a requirement for rugged, high-reliability coax connectors. Datamate has a proven track record in these industries, and Datamate Coax is designed and built to the same exacting standard.

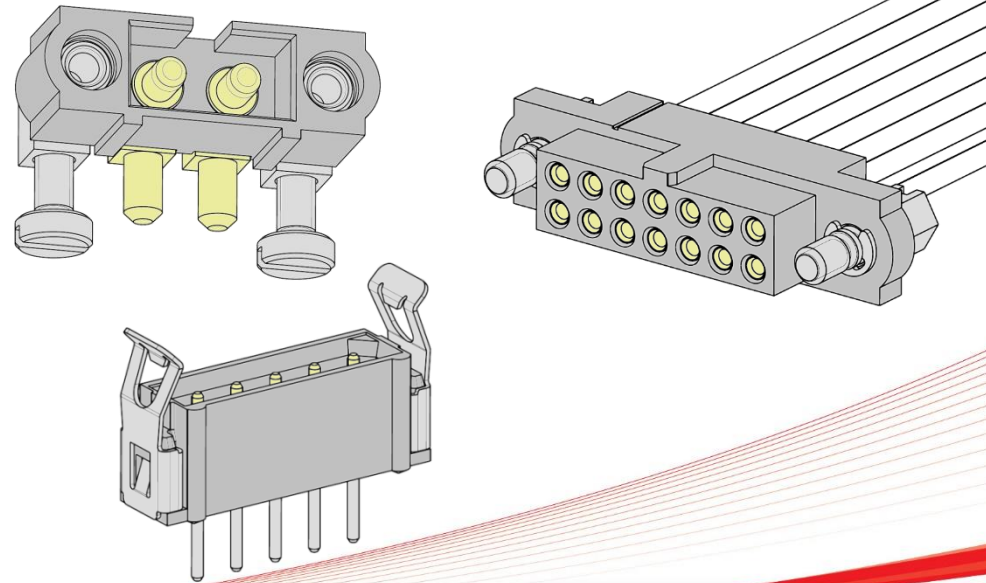
- Aerospace
- Medical
- Field Comms
- Robotics
- Marine

If you like this product, try...

gecko - 1.25mm Pitch



Datamate - 2.00mm Pitch



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- 2A per contact
- Locking latch system for strain relief
- Resists Vibration to 20G and Shock to 50G
- Temperature range -65 deg C to +150 deg C
- Vertical, Horizontal and Cable options

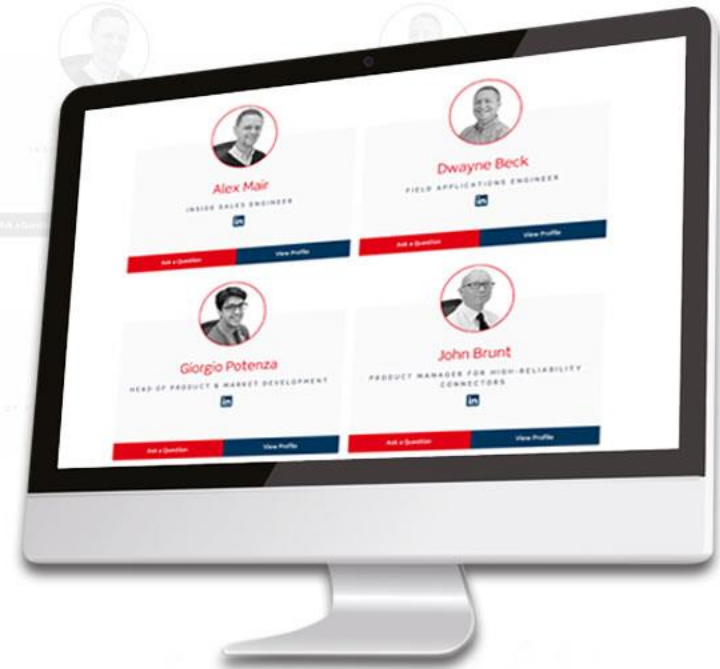
- 3A per signal, up to 40A per power contact
- Jackscrew or latching system for strain relief
- Resists Vibration to 10G and Shock to 100G
- Temperature range -55 deg C to +125 deg C
- PCB connectors in Throughboard or SMT, Cable options

Get Help from a Harwin Expert

Our experts are specialists in their field with many years of experience in their respective roles and industries.

Find an expert that can help you with your enquiry.

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CAD Models and Evaluation Samples also available at www.harwin.com

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