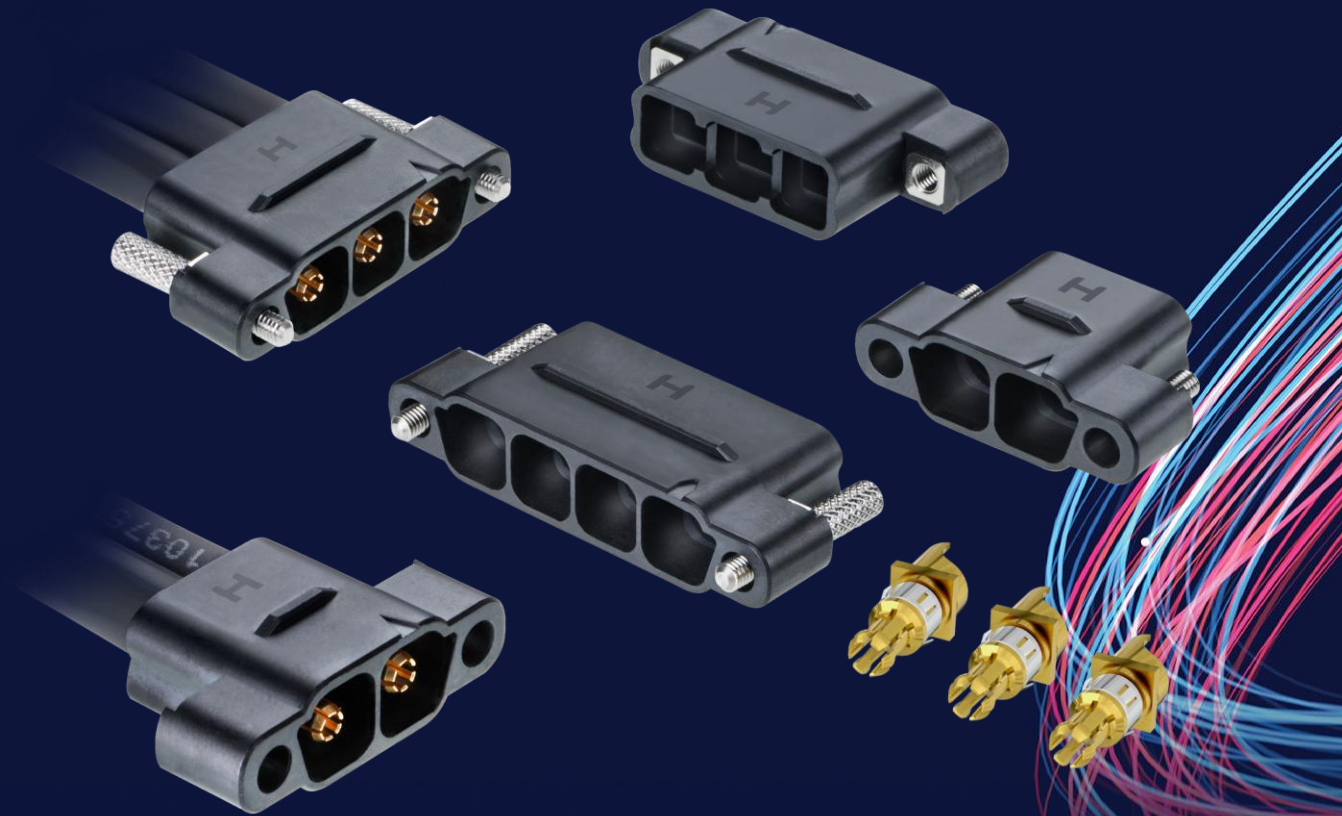


**HARWIN**

**KONA<sup>®</sup>**



## WHY GO BIGGER?



Since the addition of Datamate High Power contacts to the Harwin range of Hi-Rel products, customers like you have demanded:

- More current per contact from the hi-rel connections;
- Ease of use and great performance in vibration conditions;
- Harwin's high quality standard.

**We listened.**



## HI-REL WITH HIGH POWER



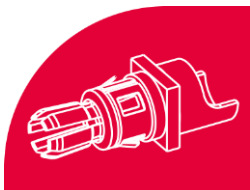
**60A PER CONTACT**



### Introducing **Kona** from Harwin.

Built to take our largest current capacity in a single contact – 60A at 8.5mm (0.335”) pitch. It more than doubles the 4mm pitch of Datamate Power connectors, and improves on the 20A & 40A power contacts. Yet the design is still very compact, standing at just 21.5mm (0.85”) above the PCB for a cable-to-board mated pair. With up to 48A per centimeter (121A per inch), no space is wasted.

## THE HEART OF THE CONNECTOR SYSTEM



### MALE PLUG **6 FINGER** CONTACT



In contrast to the other [HRI high-reliability connectors](#) (where the female receptacle contact is the heart), here you'll find a 6-fingered Beryllium Copper male plug contact providing a positive normal spring force against the female receptacle mating contact. The durable hard-acid gold finish ensures repeated mating cycles and long-term environmental exposure do not affect the connection surfaces.

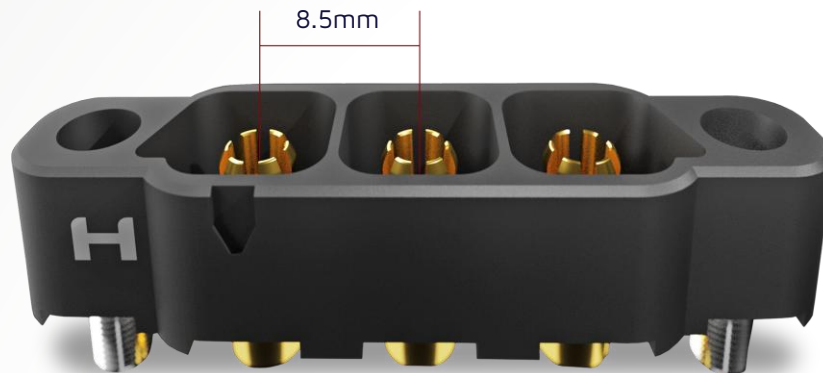
Resistance to high levels of shock & vibration and temperatures up to 150°C is built in, with the spring performance required for superior electrical and mechanical specifications.



## 8.5MM PITCH FOR CURRENT & VOLTAGE



**8.5mm  
PITCH PIN  
SPACING**



By increasing the pitch of the connector to 8.5mm, you get increased electrical specifications:

- Current rating – 60A max per contact simultaneously;
- Voltage rating – 3,000V AC maximum for 1 minute; 1,500V DC or AC peak working voltage at sea level.

Commercial or COTS, the Kona range is a professional high-performing connection system.



## COMPACT & LIGHTWEIGHT



**A KONA 4  
WAY MATED  
PAIR WEIGHS  
THE SAME AS  
AN AA  
BATTERY**



=



A mated pair of connectors will weigh just 25g (0.88oz), which is the same as a standard AA battery. The lengths are also comparable – the 3-contact version is 50mm long, also the same length as that AA battery.

Specifying this connector for power connections will keep the component weight low and PCB real estate minimal, releasing more weight and space for your other functions.

## FEATURES – SHROUDING AND POLARIZATION



Contacts on the Kona range are all individually shrouded, with a recessed design. This helps prevent accidental touch of contacts by locating the contact end below the housing face. The contacts are also better protected against incidental damage from physical knocks or mis-mating.

Polarizing features can be seen on the outer edge of the shrouding, to prevent mating round the wrong way.



## FEATURES – SECURE MATING CONNECTIONS



### ROBUST STAINLESS STEEL JACKSCREWS



All Kona connectors are fitted with screw-lock fixings, to achieve the maximum vibration and shock specifications. They are also mate-before-lock, so connectors are easier and faster to mate before the screws are engaged and screwed together.

For the standard gender fixings, board-mount retention is added to the male plug connector. The female receptacle connector has large floating thumbscrews with hex-socket heads, for either finger or torque tightening. The reverse fix style has floating hex socket screws on the male plug connector, and panel mount on the female receptacle cable connector.

## CABLE-TO-BOARD, CABLE-TO-CABLE, 8 AWG



The Kona range launched with a cable-to-board configuration – the male plug is a straight PCB-mounted throughboard connector with 4.5mm PCB tails.

The female receptacle connector is cable-mount, with housings and contacts available separately. Additional products now include male plug cable connectors for cable-to-cable.

For the 8 AWG equipment wire, we recommend a Ø7.5mm maximum insulation diameter, Silicone Rubber insulation.

## FEMALE RECEPTACLE STRAIGHT CONNECTORS, CABLE



The [female receptacle cable connector range](#) includes 2, 3 and 4-contact single row housings for cable connections, all with a visible contact no. 1 marker. Straight housings are supplied separately to the [KA1-0400005](#) solder contact or the [KA1-0450005](#) crimp contact.

Standard gender fixings have floating thumbscrews with added hex socket cavities for use with torque drivers. Reverse Fix has 5.2mm long panel mount studs for front-panel mounting on an enclosure. Use with slotted nut [KA1-4240000](#).

## FEMALE RECEPTACLE RIGHT ANGLED CONNECTORS, CABLE



The right-angled female receptacle cable connectors also include 2, 3 and 4-contact single row housings for cable connections, but are of two-piece construction. The main contact bodies are part numbers [KA1-202xx98F1](#), fitted with standard gender fixings (floating thumbscrews with added hex socket cavities for use with torque drivers). To complete the connector, the rear cap is also required (part number range [KA1-510xx98](#)).

Both housing parts are supplied separately, as is the [KA1-0500005](#) solder contact.

## MALE PLUG STRAIGHT PCB CONNECTORS, BOARD MOUNT



For the [male plug board connectors](#), these are also available in 2, 3 and 4-contact single row options for PCB throughboard mounting in straight, with 4.5mm or 5.9mm PC tail terminations. They also display a contact no. 1 marker, and are supplied in tubes with pick and place caps fitted.

Standard gender fixings have a 5.2mm or 6.6mm long board mount stud for additional security on the PCB – the slotted nut [KA1-4240000](#) is available separately for use with these. Reverse Fix has the floating hex socket screws, which will require a clearance hole in the PCB.



## MALE PLUG RIGHT-ANGLE PCB CONNECTORS, BOARD MOUNT



The [right-angle versions](#) are also available in 2, 3 and 4-contact single row options for PCB throughboard mounting in straight, with 3.65mm PC tail terminations. They also display a contact no. 1 marker, and are supplied in tubes (no pick and place caps required).

The KA1-MH1xx05M3 Standard gender fixings have a female receptacle thread for use with the 10mm long hex socket bolt [KA1-4200000](#) for additional security on the PCB. The KA1-MH1xx05M4 include both the board mount and mating threads, but also additional internal threads for fixing to a front panel.

## MALE PLUG CONNECTORS, SOLDER CABLE



The [male plug cable connector range](#) includes 2, 3 and 4-contact single row housings for cable connections, again with a visible contact no. 1 marker. Housings are supplied separately to the [KA1-1410005](#) solder contact.

Standard gender fixings have internal threads for mating, and optional 5.2mm long panel mount studs for front-panel mounting on an enclosure (use with slotted nut [KA1-4240000](#)). Reverse Fix has floating thumbscrews with hex socket cavities for use with torque drivers.



## 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 straight PCB-mounted connectors or panel-mounted cable connectors are also available.

## READY-MADE CABLE ASSEMBLIES



Ready-made cables are available made to order, inspected and tested for immediate production use. Variations include:

- Single-ended, male plug or female receptacle – free end can be supplied as cut, or stripped to your specified length
- Double-ended – male-to-male, female-to-female, or male-to-female
- Specify your own cable lengths from 100mm to 9,999mm
- Standard gender and reverse fixing options for each end



## ELECTRICAL SPECIFICATIONS

Current Rating	<b>60A</b> max per contact
Maximum Voltage	<b>3,000V</b> AC for 1 minute
Working Voltage (sea level)	<b>1,500V</b> DC or AC <sub>peak</sub>
Contact Resistance	<b>2mΩ</b> max

Kona is capable of the highest current rating per contact from Harwin. At 121A per inch or 48A per centimeter for the 4-contact model, it's the highest power density in our portfolio.

The full Kona [Component Specification C052xx](#) includes additional information and de-rating curves.

## MECHANICAL & ENVIRONMENTAL SPECIFICATIONS

Temperature Range	<b>-65°C to +150°C</b>
Vibration	<b>20G</b> for 12 hours
Shock	<b>100G</b> for 6ms
Durability	<b>250</b> mating cycles

Testing confirms that the vibration and shock resistance is in line with the rest of the Harwin high-reliability connectors. Temperature range exceeds Datamate, and matches Gecko.

Consult the [Test Report Summary HT076xx](#) for more information.



## ACCESSORIES AND TOOLING



Contacts are designed to be pushed in by hand, no tooling is required for assembly to the housing. The following tools are available:

- Crimp tool [ZA1-920](#) and positioner [ZA1-921](#) – for assembling cable to crimp contacts;
- Removal tool [ZA1-9040000](#) – if a cable contact requires removal and replacement;
- Slotted screwdriver [ZA1-9020000](#) – to tighten or loosen slotted nuts [KA1-4240000](#) on mounting studs.

Tools and nuts are available separately. [Instruction Sheet IS-49](#) includes instructions for assembling and removing cable contacts.



## MARKETS



Rugged, high-reliability connectors continue to be in strong demand in many varied environments. With the added current-carrying capacity in a small size, Kona is expected to deliver power supply requirements for many modern technology markets.

- Aerospace
- Autosport
- Drives & Controls
- Robotics
- Oil & Gas

# LEARN MORE ABOUT OUR OTHER RANGES



HIGH RELIABILITY  
WITH SUPREME  
PERFORMANCE



DEPENDABLE  
CONNECTIVITY  
ACROSS THE BOARD



INNOVATIVE  
DESIGNS FOR  
EASY ASSEMBLY

Find out more about our full range  
of inter-connection solutions at  
[www.harwin.com](http://www.harwin.com)

**HRI**  
RANGE

**BBi**  
RANGE

**EZi**  
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