Kona Connectors Introduction

Kona is a 8.50mm pitch High-Reliability, high performance connector range from Harwin. The largest connector with a rugged construction, providing the ultimate in power-handling capability and voltage flashover resistance. The compact design delivers savings on space and weight.

At 60A per contact, Kona supplies maximum power in cable-to-board for extreme environments. The rugged and resilient performance is suited for power delivery in aerospace and UAVs, industrial and energy applications. Stainless steel screw fixings assist with vibration and shock resistance, and single-piece Beryllium Copper contacts perform under a wide range of temperatures. All components are fully RoHS-compliant, and low outgassing with future-proofed thermoplastics ensure suitability for many applications on the ground and above it.

- Up to 60A per contact in a space-saving design - just 21.5mm height for cable-to-board
- Mating durability of 250 cycles, with easy-to-use screw-fixings that mate-before-lock
- High levels of heat resistance: -65° to +150°C operating temperature
- Individually shrouded contacts with polarized housings, avoiding damage from physical knocks and mis-mating
- Great for SWaP constraints - minimal design and lightweight mated connections
- Ongoing development program for future range expansion
Kona Connectors Product Features

Six Finger Beryllium Copper Contact
High-reliability contact design ensures electrical integrity under extremes of vibration and shock. Durable to 250 mating cycles.

Individually Shrouded Scoop-proof Contacts
Each contact is protected from accidental touch and physical knocks from all directions, including onto the mating face.

No. 1 Position Identified
Both cable and PCB mounted housings are clearly marked with an identifier for fast visual inspection.

Comprehensive Operating Temperature
Performance maintained across the full operating temperature range of -65°C to +150°C. De-rating curves available.

Stainless Steel Mate-Before-Lock Fixings
Rugged easy-to-use fixings between mated connectors, to assist with vibration & shock, and to prevent accidental disconnection. Simple to use - fully mate connectors, then engage screw fixing.

Polarization Elements
Simple polarized housing designs, to prevent mis-mating the wrong way round.
Kona Specification

Materials

Housings: Glass-filled thermoplastic UL94V-0
Contacts: Beryllium Copper
Finish: Gold (Nickel on Latching Collar)

Electrical

Current: 60A max per contact
Working voltage: 1,500V DC or AC peak
Voltage proof
  At sea level 1013mbar: 3,000V AC for 1 minute
  At altitude 44mbar: 500V AC for 1 minute
Contact resistance: 2mΩ max
Insulation resistance: 10GΩ min at 1,000V

Mechanical

Durability: 250 operations
Insertion force (max):
  Initial: 50N per contact
  After conditioning: 70N per contact
Withdrawal force (min):
  5N per contact

Environmental

Operational temperature: -65°C to +150°C
*Vibration sensitivity:
  10Hz to 2000Hz, 1.52mm, 196m/s² (20G), duration 12 hours
*Shock sensitivity:
  981m/s² (100G) for 6ms

*Tested with connectors with screw-locks

Pin Numbering

FEMALE

MALE

Mating Profiles

FEMALE CABLE

MALE THROUGHBOARD

21.70 max
Kona Connectors

Female Cable Connector Housings

- All contact locations are individually shrouded.
- No. 1 position identified on housing.
- Scoop-proof contacts.
- Stainless steel screw fixing to mate with applicable male connector.

FLOATING THUMBSCREW WITH HEX SOCKET

PANEL MOUNT NUT

REVERSE FIX WITH PANEL MOUNT

ORDER CODE
KA1-4240000

TOOLS

Contact Removal Tool - ZA1-9040000

HOW TO ORDER

<table>
<thead>
<tr>
<th>SERIES CODE</th>
<th>KA1 - 201 XX 98 FX</th>
</tr>
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<tbody>
<tr>
<td>TYPE</td>
<td>201 Female Housing</td>
</tr>
<tr>
<td>TOTAL NO. OF CONTACTS</td>
<td>02, 03, 04</td>
</tr>
</tbody>
</table>

FIXING

- F1 Floating Thumbscrew with Hex Socket
- F2 Reverse Fix with 5.2mm Panel Mount stud

All dimensions in mm.

www.harwin.com
Kona Connectors

Female Cable Connector Contacts

- Beryllium Copper contact with retention collar.
- Solder cup accepts 8 AWG cable.

<table>
<thead>
<tr>
<th>CONTACT</th>
<th>WIRE STRIPPING DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image.png" alt="Diagram" /></td>
<td><img src="image.png" alt="Diagram" /></td>
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<table>
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<tr>
<th>TOOL DETAILS</th>
</tr>
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<tr>
<td>Contact Removal Tool – ZA1-9040000</td>
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</tbody>
</table>

All dimensions in mm.

HOW TO ORDER

- Female cable housing shown on previous page.

**SERIES CODE**

- **KA1**

**TYPE**

- **040** - 8 AWG solder contact

**FINISH**

- **05** - Gold

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Kona Connectors

Male Vertical Throughboard

- All contact locations are individually shrouded.
- No. 1 position identified on housing.
- Scoop-proof contacts.
- Stainless steel screw fixing to mate with applicable female connector.
- Supplied in tubes with pick and place caps.
- Order nuts for board mount separately.

**FLOATING HEX SOCKET - REVERSE FIX**

**BOARD MOUNT NUT**

<table>
<thead>
<tr>
<th>ORDER CODE</th>
<th>KA1-4240000</th>
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**WITH BOARD MOUNT STUD**

**CALCULATION**

<table>
<thead>
<tr>
<th>A</th>
<th>B + 24.5</th>
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</thead>
<tbody>
<tr>
<td>B</td>
<td>8.5 x (No. of contacts - 1)</td>
</tr>
<tr>
<td>C</td>
<td>B + 16.5</td>
</tr>
</tbody>
</table>

**HOW TO ORDER**

- **SERIES CODE**
  - KA1
- **TYPE**
  - M Male
  - V1 Vertical
- **TOTAL NO. OF CONTACTS**
  - 02, 03, 04
- **FIXING**
  - M1 With 5.2mm Board Mount stud
  - M2 Floating Hex Socket (reverse fix)
- **FINISH**
  - 05 Gold

All dimensions in mm.

www.harwin.com
## Kona Connectors Tooling

- Instruction sheets can be accessed at [www.harwin.com/instructions](http://www.harwin.com/instructions).

<table>
<thead>
<tr>
<th>CONTACT REMOVAL TOOL</th>
<th>SLOTTED SCREWDRIVER</th>
</tr>
</thead>
<tbody>
<tr>
<td>✷ For removal of cable contacts from housing.</td>
<td>✷ Nuts for panel mount or board mount to be tightened to a torque of 22 to 25cmN.</td>
</tr>
</tbody>
</table>

### HEX DRIVE BIT

- 2mm A/F Hex end for Kona Hex Socket screw-locks.
- For use with torque tooling or similar equipment.

### BALL HEX DRIVER

- 2mm A/F Hex end for Kona Hex Socket screw-locks.
- Ball-shaped end can be used at a wide range of angles.

All dimensions in mm.