integraMate Hyperboloid Contacts

QA Technology integraMate™ Contacts are high quality, high reliability hyperboloid contacts intended for use in a wide range of applications. Our patented design provides lower insertion force, closer connector pin spacing, and better protection from damage than competitive designs. In addition, our automated manufacturing equipment typically allows us to ship within 24-48 hours of order.

Competitive Advantages

The integraMate Hyperboloid Contact System has three clear advantages over existing hyperboloid contacts:

1. Lower and more uniform insertion and extraction force
2. Smaller contact diameter allows closer spacing and higher connector density
3. Better protection of the hyperbolic wire cage from accidental damage, since the cage lies behind a strong tubular entrance

Socket Construction Details

0.6mm Signal Contacts Type ICO60

1.5mm Power Contacts Type ICOA5

Features

• Low insertion/extraction force
• Low resistance
• Long cycle life
• Resistance to shock and vibration*
• Positive wiping action
• Easy contact removal using available extraction tools
• Small external contact diameter compared to other hyperboloid contacts allowing closer spacing
• Tubular entrance to protect spring wire cage and guide mating
• Internmates with other hyperboloid contacts known in the industry

Applications

High reliability connectors for:

• Medical & Dental Equipment
• Scientific Instruments
• Industrial Equipment
• Transportation Equipment
• ATE Interfaces
• Military & Aerospace
• Telecommunications & Data Communications

*Contacts have been tested while installed in integraMate circular connectors for resistance to vibration, shock, humidity, and corrosion. For details and test results, please contact QA.
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  - Medical & Central Equipment
  - Scientific Instruments
  - Military & Aerospace
  - Industrial Equipment
  - Telecommunications
  - Transportation Equipment
  - Data Communications

* Contacts have been tested under isolated in integraMate circular connection for resistance to vibrations, shock, humidity, and corrosion. For more details and test results, please contact QA Technology.

### Specifications

#### Mechanical Specifications

- Insertion/Ejection Force: 4 oz (114 g) typical
- Retention Force: 5.0 lb (22.2 N)
- Compression (Spring life): 50 to 100,000 Cycles
- Contact Resistance: 4.0 milliohms maximum, 3.0 milliohms typical
- Wire Size: #16 – #4 AWG Crimp & Solder Cup
- Materials:
  - Contact Wires: Beryllium Copper, not plated
  - Spring Clips: Beryllium Copper, not plated
- Plating:
  - 15 microns of gold plating over nickel on all sliding contact surfaces
  - 10 microns minimum of gold plating over nickel on all other surfaces, except as noted

### Dimensional Specifications

#### 0.6mm Signal Contacts Type ICO60

- Actual Size
- PCB Termination
- Solder Cup Termination
- Crimp Termination

#### 1.5mm Power Contacts Type ICOA5

- Actual Size
- PCB Termination
- Solder Cup Termination
- Crimp Termination

### Typical Dimensions for Mounting in Insulator

- All specifications subject to change without notice. All dimensions are in inches [mm].

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For detailed product specifications, please contact QA Technology Company, Inc. at (603) 926-1193 or integramate@qatech.com.
### 1.5mm Power Contacts Type ICOA5

#### Mechanical Specifications

- **Insertion/Extraction Force**: 4 oz [114 g] typical
- **Retention Force**: 5.0 lb [22.2 N]
- **Durability (Cycle Life)**: Up to 100,000 Cycles

#### Electrical Specifications

- **Current Rating**: 12.0 Amps nominal (dependent upon mounting config., contact density, ambient temp., etc.)
- **Contact Resistance**: 2 milliohm maximum, 1.5 milliohm typical
- **Wire Size**: 16 – 20 AWG Crimp & Solder Cup

#### Materials

- **Contact Wires**: Beryllium Copper, ends not plated
- **Spring Clip**: Beryllium Copper, not plated
- **All other parts**: High conductivity copper alloys

- **Plating**:
  - 50 μ-inch of gold plating over nickel on all sliding contact surfaces
  - 10 μ-inch minimum of gold plating over nickel on all other surfaces, except as noted

#### ICOA5 Pin / Socket Engagement Lengths

#### Typical Dimensions for Mounting in Insulator

All specifications subject to change without notice. All dimensions are in inches [mm]

For detailed product specifications, please contact QA Technology Company, Inc. at (603) 926-1193 or integramate@qatech.com.
integraMate™ Hyperboloid Contact Ordering Information

0.6mm Contact Order Code:

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1.5mm Contact Order Code:

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Accessories and Tools for ICO60 (0.6mm) Contacts

- **ITC-100** Crimping Tool – Daniels AFM8 crimping tool (contact positioner not included)
- **ITP-O60** Contact Positioner – Positions 0.6 mm contacts in Daniels AFM8 crimping tool
- **ITE-O60** Contact Extraction Tool – Extracts 0.6 mm contacts from dielectric

Accessories and Tools for ICOA5 (1.5mm) Contacts

- **ITC-200** Crimping Tool – Daniels AF8 crimping tool (contact positioner not included)
- **ITP-OA5** Contact Positioner – Positions 1.5 mm contacts in Daniels AF8 crimping tool
- **ITE-OA5** Contact Extraction Tool – Extracts 1.5 mm contacts from dielectric

All specifications subject to change without notice. All dimensions are in inches [mm]. ISO 9001:2000
About QA Technology

QA Technology was founded in 1981 and has since been recognized as a worldwide leader in the manufacture of high quality spring contact test probes. QA designs and builds its own flexible, high-speed automatic assembly equipment, which allows us to typically ship orders within 24-48 hours. Now QA Technology brings the same high quality and manufacturing speed to the hyperboloid contact market.