1 - DESCRIPTION

- Four #24 pin contacts with 360° shielding
- Compact design allows mounting into #8 cavity dimensions
- Replaces the use of 2 twinax contacts with 30% shorter cabling time and better performance
- Front and rear removable versions available
- Crimp and PC tail versions available

Key features

- Crimped signal contacts, crimped #8 body
- Standard #8 cavity insertion and removal tools
- Ground connection of the cable braid to the shell possible through the external shell of the #8 contacts
- Compatible with star quad cable and twinax cable
- Characteristic impedance of 100 Ω or 150 Ω
- Operating temperature: -65°C/+200°C.
2 - TECHNICAL CHARACTERISTICS

Mechanical

- Endurance: minimum 500 mating / unmating operations in any connector
- Shocks: 300 g, 3 ms as per EN-2591-6404 method A and MIL-STD 1344 in 38999 connector
- Vibrations:
  - Random 100 to 1000 Hz, 3 x 8 hours
  - 0.2 g/Hz, as per MIL-STD 1344 A, Method 2005.1, level E, test V, in ARINC 600 connector
  - Random, 3 x hours – 0.2 g/Hz, as per EN-2591-6403 Method B, level J in 38999 connector
- Contact retention: minimum 155 N
- Contact insertion force: maximum 11 N

Environmental

- Salt spray: 48 hours minimum, as per MIL-STD 1344 A, method 1003
- Temperature range: -65° C, +200° C
- Sealing in connector insert (for sealed Quadrax version):
  - Altitude immersion 2 kPa in accordance with EN 2591-6303 table 7 and MIL-STD 1344
  - IP 68

Material

- Inner contact: copper alloy
- Body: copper alloy
- Insulator: thermoplastic
- Contact plating: gold over nickel plated

Electrical performances

- Contact resistance (low level): initial 15 mΩ, after tests 30 mΩ
- Contact resistance at rated current:

<table>
<thead>
<tr>
<th>Contact</th>
<th>Rated current (A)</th>
<th>Initial</th>
<th>After tests</th>
<th>After tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signal</td>
<td></td>
<td>15</td>
<td>30</td>
<td>45</td>
</tr>
<tr>
<td>contacts</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outer body</td>
<td></td>
<td>12</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

- Dielectric withstanding voltage:
  - Sea level = 500 Vrms between signal contacts and signal contact/body
  - 21000 m = 125 Vrms between signal contacts and signal contact/body
- Insulation resistance: at ambient temperature > 5000 MΩ, at high temperature > 1000 MΩ
- Characteristic impedance: 100 Ω @ 100 MHz
- Attenuation ≤ 0.3 dB @ 100 MHz typical per contact pair (cat 5E requirement = 0.3 dB @ 100 MHz)
- Crosstalk ≥ 40 dB @ 100 MHz typical (cat 5E requirement = 40 dB)
3 - DIMENSIONS AND PART NUMBERS

A/ For Arinc 600 Connectors

**QUADRAX # 8 - PIN FOR ARINC 600 CONNECTOR**

<table>
<thead>
<tr>
<th>Male Contact</th>
<th>Rear release</th>
<th>To crimp</th>
<th>P/N: ETH1-1100A</th>
</tr>
</thead>
</table>

**QUADRAX # 8 – SOCKET FOR ARINC 600 CONNECTOR**

<table>
<thead>
<tr>
<th>Female Contact</th>
<th>Rear release</th>
<th>To crimp</th>
<th>P/N: ETH1-1101A</th>
</tr>
</thead>
</table>

**QUADRAX # 8 – PIN FOR ARINC 600 CONNECTOR PCB MOUNT**

<table>
<thead>
<tr>
<th>Male Contact</th>
<th>Front release</th>
<th>PC Tail contact L = 6.35 mm</th>
<th>P/N: ETH1-1110A</th>
</tr>
</thead>
</table>

*Dimensions in millimeters*
### Quadrax Contact

#### B/ For MIL-DTL-38999 Connectors

<table>
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<tr>
<th><strong>QUADRAX # 8 – PIN FOR 38999 CONNECTOR</strong></th>
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<tr>
<td><img src="image" alt="Diagram of a quadrax connector" /></td>
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<tr>
<td>Male Contact</td>
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</tbody>
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Dimensions in millimeters
QUADRAX # 8 - SOCKET FOR 38999 CONNECTOR FOR PCB MOUNT

<table>
<thead>
<tr>
<th>Female Contact</th>
<th>Rear release</th>
<th>PC Tail Contact</th>
<th>P/N: ETH1-1114A</th>
</tr>
</thead>
</table>

4 - TOOLING DATA

A/ Crimping tools

Ref: M22520/2-01 and K708

B/ Insertion and extraction tool

Ref: 8660-19/7

Ref: M22520/5-01 and M22520/5-45
5 - WIRING INSTRUCTION

- Fit the supply guide on the cable for the male contact.
- Strip braid back 20 mm.
- Install the ferrule.
- Twist braid around the ferrule.
  Trim the wires back 13 mm 0/0.5
  TAKE CARE TO HAVE THE SAME LENGTH FOR THE 4 WIRES
  Cut the braid, leaving the rear part of the ferrule exposed.
- Strip the wires back 3.5 mm
  Crimp the contacts using M22520/2-01 tool and K709 positioner, setting number 5.
- Put the wired contacts in the insulator
  (see the front face view for positioning).
- Align the insulator key with the reference marks.
  Insert until the knurled part of the ferrule is inside the body.
- Insure that all the pieces are held in place before and during crimping.
  Crimp braid and outer jacket using M22520/5-01 tool and M22520/5-45 die set rep B.
  Crimp length: 5 mm.

6 - RECOMMENDED CABLES

<table>
<thead>
<tr>
<th>Supplier</th>
<th>Characteristic impedance</th>
<th>P/N</th>
<th>Cable type</th>
<th>Number of pairs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Draka</td>
<td>100 Ω</td>
<td>F4703-38</td>
<td>Star quad</td>
<td>2</td>
</tr>
<tr>
<td>Nexans</td>
<td>100 Ω</td>
<td>ET2PC236</td>
<td>Star quad</td>
<td>2</td>
</tr>
</tbody>
</table>