SOURIAU

8STA/8TA Series
Compact Circular Connectors
Derived from MIL-DTL-38999 & JN1003
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8STA/8TA Series

Overview

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Compact Circular Connectors

8STA/8TA Series

- **8STA & 8TA** circular connectors are derived from international military specifications **MIL-DTL-38999 & JN1003**, and are designed to withstand high levels of shock & vibration in harsh environments.

- One of the primary objectives with this product family, is to push the boundaries in terms of **miniaturization** and **weight reduction**, as demonstrated by the introduction of the world's smallest, & now most popular connector of this type: **8STA size 02**.

- Continuing on with this theme, several new products can be found in this latest catalogue, including chassis mounted receptacles with integrated nuts, eliminating the need for nut plates, lightweight cable receptacles, hermetic size 02 connectors and High Density 8STA with pin counts normally associated with much larger connectors.

- **8STA & 8TA** Series connectors are recommended for **harsh environment** applications where size and weight should be minimized.

**Motorsport Applications:**
Formula 1, WRC, GP2, Moto GP, Superbike, Boat racing, ...
- Electronic boxes, sensors, harnesses, ...
- Miniaturization, power, high density, ...
8STA/8TA Series
Overview

Features & benefits

Integrated Backshell
► Space & weight saving.
► Cost effective.
► Right angle & straight version available.
► Easy to implement with heat shrink boot.

Environmental Resistant
► IP67 waterproof.
► Grommet and interfacial seal as MilAero products.
► 500 mating/unmating endurance.
► Withstands most of Motorsport fluids.

8STA/8TA Series
► Compact circular connector.
► Derived from MIL-DTL-38999 & JN1003.
► Many derived products! See page 39.

A Complete Range
► Crimp, PC tails, coax, triax, quadrax, power & thermocouple contacts.
► 12 shell sizes: from size 02, up to size 24.
► More than 70 contact layouts.

User Friendly
► Quick bayonet locking: 1/3 turn to mate.
► Secure connection with audible clic.
► Visual color indication when mated.
► Up to 7 color coded keyway orientations.
# 8STA/8TA Series Overview

## Product range overview

### Standard Series

<table>
<thead>
<tr>
<th>Product</th>
<th>Shell Sizes</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>8STA Series</td>
<td>02 to 06</td>
<td>16</td>
</tr>
<tr>
<td>8STA Series</td>
<td>08 to 24</td>
<td>19</td>
</tr>
<tr>
<td>Integrated Clinch Nuts</td>
<td></td>
<td>23</td>
</tr>
<tr>
<td>High Density</td>
<td></td>
<td>26</td>
</tr>
<tr>
<td>PC Tail Contacts</td>
<td></td>
<td>28</td>
</tr>
<tr>
<td>Power Contacts</td>
<td></td>
<td>32</td>
</tr>
<tr>
<td>8TA Series</td>
<td></td>
<td>35</td>
</tr>
</tbody>
</table>

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8STA/8TA Series

Overview

Derived Series

- **Steering Boss System**
  See page 40

- **Blind Mating Plug**
  See page 42

- **Through Bulkhead**
  See page 44

- **Hermetic Shell Size 02**
  See page 46

- **Hermetic Fuel Tank**
  See page 48

- **Fuel Immersible**
  See page 50

Tooling & Accessories

- A full range of tooling and accessories available:
  - Nut plates
  - Gaskets
  - Metal protective caps
  - Filler plugs
  - Crimping tools
  - Insertion & extraction tools
  - ...

Common Section

page 53
8STA/8TA Series
Overview

Contact layouts (viewed from front face of male insulator)

02

05
5 #26
Service R

35
3 #22D
Service S

06

05
5 #26
Service M

09
9 #26
Service R

35
5 #22D
Service M

08

12
12 #26
Service R

35
6 #22D
Service M

98
3 #20
Service I

10

01
1 #12
Service II

02
2 #16
Service I

04
4 #20
Service I

05
5 #20
Service I

26
26 #26
Service R

35
13 #22D
Service M

80
spec 251

98
1 #8 power
Service I

99
6 #20
Service I

7 #20
Service I

- Contact #22D
- Contact #20
- Contact #16
- Contact #12
- Contact #8 Power
- Contact #4 Power
- Crimp contact layouts
- PC tail contact layouts
- Solder cup contact layouts
- High Density layouts
- For both 8STA & 8TA, all others for 8STA only
8STA/8TA Series
Overview

12

1
spec 261
1 #4 power
Service M

3
1 #16
Service I

4
4 #16
Service I

8
8 #20
Service I

6
6 #22D
2 #12
Service M

22 #22D
Service M

43 #26
Service R

10 #20
Service I

14

5
spec 251
5 #16
Service II

14 #20
1 #16
Service I

18 #20
Service I

19 #20
Service I

37 #22D
Service M

8 #20
4 #16
Service I

16

1
spec 261
1 #8 power
38 #22D
Service N

6
6 #12
Service I

8 #16
Service II

26 #20
Service I

2 #8 power
Service M

2 #16
21 #20
Service I

Contact #22D
Contact #12
Crimp contact layouts
High Density layouts
Contact #20
Contact #8 Power
PC tail contact layouts
Contact #16
Contact #4 Power
Solder cup contact layouts

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8STA/8TA Series
Overview

18

11
spec 251
11 #16
Service II
14 #22D
4 #8 power
Service M
26 #20
2 #16
Service I
32 #20
Service I
66 #22D
Service M

20

11
11 #12
Service I
16
16 #16
Service II
35
79 #22D
Service M
39
37 #20
2 #16
Service I
41
41 #20
Service I
48
4 #8 power
Service I
77
17 #22D
2 #8 power
Service M

22

21
21 #16
Service II
32
32 #20
Service I
35
100 #22D
Service M
53
53 #20
Service I
54
40 #22D
9 #16
4 #12
Service M
55
55 #20
Service I

Contact #22D
Contact #12
Crimp contact layouts
Contact #20
Contact #8 Power
PC tail contact layouts
Contact #16
Contact #4 Power
Solder cup contact layouts
8STA/8TA Series
Overview

Test voltage rating (Vrms)

<table>
<thead>
<tr>
<th>Service</th>
<th>Sea level</th>
<th>at 21 000 m</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>400</td>
<td>N/A</td>
</tr>
<tr>
<td>S</td>
<td>1000</td>
<td>N/A</td>
</tr>
<tr>
<td>M</td>
<td>1300</td>
<td>800</td>
</tr>
<tr>
<td>N</td>
<td>1000</td>
<td>600</td>
</tr>
<tr>
<td>I</td>
<td>1800</td>
<td>1000</td>
</tr>
<tr>
<td>II</td>
<td>2300</td>
<td>1000</td>
</tr>
</tbody>
</table>
8STA/8TA Series

Standard Series

- 8STA Series - Shell sizes 02, 04 & 06 ................................................................. 16
- 8STA Series - Shell sizes 08 to 24 ................................................................. 19
- 8STA Series - Integrated clinch nuts ................................................................. 23
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8STA Series
Shell Sizes 02, 04 & 06

Technical features

Mechanical

- **Shell:**
  - Aluminium alloy
  - Glass fibre loaded plastic - composite (shell size 06 only)

- **Shell plating:**
  - Conductive black zinc (standard)
  - Nickel (F)
  - Composite (X)

- **Insulator:**
  - Thermoplastic

- **Grommet & seal:**
  - Liquid silicone rubber

- **Contact:**
  - Copper alloy

- **Contact plating:**
  - Gold

- **Endurance:**
  - 500 mating cycles

- **Shock:**
  - 300g for 3ms and EIA-364-27

- **Vibration:**
  - $147\text{m/s}^2$, 10 to 2000Hz

- **Contact retention:**
  - 35 N (size 26)
  - 45 N (size 22D)

Climatic

- **Operating temperature:**
  - -55°C to +175°C

- **Sealing mated connectors:**
  - IP67 (1 metre for 30 min minimum)

- **Salt spray:**
  - Aluminum: 48 hours
  - Composite: 500 hours

Electrical

- **Test voltage:**
  - Size 26: 400 Vrms
  - Size 22D: 1000 Vrms (shell size 02 & 04)
  - 1300 Vrms (shell size 06)

- **Contact resistance:**
  - Size 26: <16 mΩ
  - Size 22D: <14.6 mΩ

- **Insulation resistance:**
  - ≥ 5000mΩ @ 400Vdc / Size 26
  - ≥ 5000mΩ @ 500Vdc / Size 22D

- **Contact rating:**
  - Size 26: 3 Amp
  - Size 22D: 5 Amp

Description

- **Size 02:** the smallest circular connector with removable contacts #26

- **Ultra compact design & very lightweight connector**

- **Rugged aluminium body to ensure long service life in the harshest environment**

- **Positive locking mechanism with locked colour indicators**

- **7 color-coded keyway orientations**

- **Boot termination feature**

- **PCB option available**

- **Conductive black zinc or nickel plating**
8STA Series
Shell Sizes 02, 04 & 06

Ordering information

### Basic series

<table>
<thead>
<tr>
<th>Shell type</th>
<th>8STA</th>
<th>0</th>
<th>04</th>
<th>05</th>
<th>P</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>0: Oval flange receptacle</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1: In-line receptacle</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2: Oval flange receptacle with PCB contacts</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6: Plug</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7: Jam nut receptacle (consult us)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Plating

- **None**: Standard version
- **F**: Nickel version
- **X**: Composite version (shell size 06 only)

### Shell size

02, 04, 06

### Contact layout

See pages 10 to 13

### Type of contact

- **P**: Pin
- **S**: Socket

### Orientation

- **N**: Red / **A**: Yellow / **B**: Blue / **C**: Orange / **D**: Green / **E**: Grey (shell size 02 only) / **U**: Universal (aluminum alloy only)

### Specification

- **499**: Integrated nut on the flange - M2 insert (only for shell style 0 & 2) - for more details, please see page 23
- **528**: Integrated nut on the flange - M2.5 insert (only for shell style 0 & 2) - for more details, please see page 23
- **562**: PCB version (jam nut shell size 02 only)
- **022**: Fuel immersible version (shell sizes 04 & 06 only) - for more details, please see page 50

---

## Dimensions

### Plug

<table>
<thead>
<tr>
<th>Shell size</th>
<th>A</th>
<th>Ø B</th>
<th>Ø C</th>
</tr>
</thead>
<tbody>
<tr>
<td>02</td>
<td>17.50</td>
<td>7.2</td>
<td>10.4</td>
</tr>
<tr>
<td>04</td>
<td>18.3±0.2</td>
<td>8.5±0.1</td>
<td>13.4±0.1</td>
</tr>
<tr>
<td>06</td>
<td>21.95/22.2</td>
<td>10.1/10.35</td>
<td>15.05±0.2</td>
</tr>
</tbody>
</table>

### In-line receptacle

<table>
<thead>
<tr>
<th>Shell size</th>
<th>A</th>
<th>Ø B</th>
<th>Ø C</th>
</tr>
</thead>
<tbody>
<tr>
<td>02</td>
<td>17.50</td>
<td>7.2</td>
<td>8.3</td>
</tr>
<tr>
<td>04</td>
<td>18.1±0.2</td>
<td>8.5±0.1</td>
<td>10±0.2</td>
</tr>
<tr>
<td>06</td>
<td>22.95/23.2</td>
<td>10.1/10.35</td>
<td>11.5/11.65</td>
</tr>
</tbody>
</table>

*Note: All dimensions are in millimeters (mm)*
### 8STA Series
Shell Sizes 02, 04 & 06

#### Oval flange receptacle

![Diagram of Oval Flange Receptacle]

<table>
<thead>
<tr>
<th>Shell size</th>
<th>J</th>
<th>K</th>
<th>L</th>
<th>Ø M</th>
<th>Ø N</th>
</tr>
</thead>
<tbody>
<tr>
<td>02</td>
<td>1.75/1.7</td>
<td>0.95/1.15</td>
<td>0.64/0.69</td>
<td>0.49/0.54</td>
<td>15.3°/15° (\pm) 1°/0°</td>
</tr>
<tr>
<td>04</td>
<td>1.19/1.24</td>
<td>1.1/1.15</td>
<td>0.64/0.69</td>
<td>0.49/0.54</td>
<td>16.2°/1° (\pm) 1°/0°</td>
</tr>
<tr>
<td>06</td>
<td>1.19/1.24</td>
<td>1.1/1.15</td>
<td>0.64/0.69</td>
<td>0.49/0.54</td>
<td>18°/1° (\pm) 1°/0°</td>
</tr>
</tbody>
</table>

#### Jam nut receptacle (shell size 04)

![Diagram of Jam Nut Receptacle]

Panel thickness: 1.5 to 5.0

#### Orientation

![Diagram of Orientation]

<table>
<thead>
<tr>
<th>Key positions</th>
<th>N</th>
<th>A°</th>
<th>B°</th>
<th>C°</th>
<th>D°</th>
<th>E°</th>
<th>U</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shell size 02</td>
<td>Angles A°</td>
<td>153°</td>
<td>51°</td>
<td>102°</td>
<td>204°</td>
<td>255°</td>
<td>306°</td>
</tr>
<tr>
<td>Shell sizes 04 &amp; 06</td>
<td>Angles A°</td>
<td>145°</td>
<td>130°</td>
<td>110°</td>
<td>155°</td>
<td>90°</td>
<td>None</td>
</tr>
<tr>
<td>Color band</td>
<td>Red</td>
<td>Yellow</td>
<td>Blue</td>
<td>Orange</td>
<td>Green</td>
<td>Grey</td>
<td>None</td>
</tr>
</tbody>
</table>

Note: All dimensions are in millimeters (mm)

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8STA Series
Shell Sizes 08 to 24

Description

• 5 shell styles:
• 100% scoop-proof

• EMI-RFI shielding and shell to shell continuity is provided by conductive plating and integral grounding ring fitting to the plug

• Environment sealing from interfacial seal and rear grommet (sealing IP67)

• Positive locking mechanism with locked colour indicator

• 6 color-coded keyway orientations

• Conductive black zinc or nickel plating

Technical features

Mechanical

• Shell: Aluminium alloy

• Shell plating: Conductive black zinc
  Nickel (F)

• Insulator: Thermoplastic

• Grommet & seal: Liquid silicone rubber

• Contact: Copper alloy

• Contact plating: Gold

• Endurance: 500 mating cycles

• Shock: 300g for 3ms and EIA-364-27

• Vibration: 147m/s², 10 to 2000Hz

• Contact retention:
  Size 22D: 45 N
  Size 20: 60N
  Size 16: 100 N
  Size 12: 100 N
  Size 8: 110 N
  Size 4: 200 N

Climatic

• Operating temperature: -55°C to +175°C

• Sealing mated connectors: IP67 (1 metre for 30 min minimum)

• Salt spray: Aluminum: 48 hours

Electrical

• Test voltage:

<table>
<thead>
<tr>
<th>Service</th>
<th>M</th>
<th>N</th>
<th>I</th>
<th>II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sea level</td>
<td>1300</td>
<td>1000</td>
<td>1800</td>
<td>2300</td>
</tr>
</tbody>
</table>

• Contact resistance:
  Size 22D: 14.6 mΩ
  Size 20: 7.3 mΩ
  Size 16: 3.8 mΩ
  Size 12: 3.5 mΩ
  Size 8: 3 mΩ
  Size 4: 2 mΩ

• Insulation resistance:
  ≥ 5000 mΩ (at 500 Vdc)

• Contact rating:
  Size 22D: 5 A
  Size 20: 7.5 A
  Size 16: 13 A
  Size 12: 23 A
  Size 8: 45 A
  Size 4: 80 A

• Shell continuity: ≤ 10 mΩ
8STA Series
Shell Sizes 08 to 24

Ordering information

Basic series

<table>
<thead>
<tr>
<th>Shell type</th>
<th>8STA</th>
<th>0</th>
<th>10</th>
<th>35</th>
<th>P</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>0: Oval flange receptacle (for front or rear mounting)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1: In-line receptacle</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2: Oval flange receptacle with PCB contacts</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6: Plug</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7: Jam nut receptacle</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Plating

- None: Standard version
- F: Nickel version

Shell size: 08 - 10 - 12 - 14 - 16 - 18 - 20 - 22 - 24

Contact layout: See pages 10 to 13

Type of contact

- P: Pin
- S: Socket

Orientation

- N: Red / A: Yellow / B: Blue / C: Orange / D: Green / U: Universal

Specification

- None: Standard version
- 499: Integrated nut on the flange - M2 insert (only for shell style 0 & 2) - for more details, please see page 23
- 528: Integrated nut on the flange - M2.5 insert (only for shell style 0 & 2) - for more details, please see page 23
- 523: Lightweight In-line receptacle (shell type 1)
- 022: Fuel immersible version - for more details, please see page 50

Dimensions

Oval flange receptacle

<table>
<thead>
<tr>
<th>Shell size</th>
<th>A max.</th>
<th>B 10.20</th>
<th>ØC 0.1</th>
<th>ØD -0.2 -0.13</th>
<th>E 0.15</th>
<th>F 0.13</th>
<th>G max.</th>
<th>L max.</th>
<th>P max.</th>
<th>Panel cut out</th>
</tr>
</thead>
<tbody>
<tr>
<td>08</td>
<td>16.50</td>
<td>21.40</td>
<td>3.20</td>
<td>12.00</td>
<td></td>
<td></td>
<td>27.20</td>
<td>32.00</td>
<td></td>
<td>14.50</td>
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<tr>
<td>10</td>
<td>19.50</td>
<td>25.90</td>
<td></td>
<td>15.00</td>
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<td></td>
<td>32.00</td>
<td>35.20</td>
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<td>17.40</td>
</tr>
<tr>
<td>12</td>
<td>24.00</td>
<td>29.10</td>
<td></td>
<td>19.05</td>
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<td>38.40</td>
<td></td>
<td></td>
<td>21.90</td>
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<td>41.00</td>
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<td>28.20</td>
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<td>18</td>
<td>33.70</td>
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<td>28.57</td>
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<td>44.70</td>
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<td>31.40</td>
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<td>37.00</td>
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<td>47.90</td>
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<td>22</td>
<td>40.40</td>
<td>45.00</td>
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Note: All dimensions are in millimeters (mm)
### 8STA Series
Shell Sizes 08 to 24

#### Jam nut receptacle

![Jam nut receptacle diagram]

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<th>G ±0.3</th>
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- Note: All dimensions are in millimeters (mm)

#### In-line receptacle

**Standard version**

![Standard version diagram]

**Lightweight version (specification 523)**

![Lightweight version diagram]

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8STA Series
Shell Sizes 08 to 24

Plug

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Orientation

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</tbody>
</table>

For each shell size, U orientation can be mateable with any other orientations.

Note: All dimensions are in millimeters (mm)
8STA Series
Integrated Clinch Nuts

Description

• A convenient & time saving feature - Weight saving opportunities: Elimination of nut plates

• SOURIAU's Offer:
  . 12 shell sizes available, from 02 to 24
  . Available for standard crimp receptacle (shell type 0) & PCB receptacle (shell type 2)

Technical features

Current solution:

NEW solution:

Integrated clinchnut on the flange

Mechanical

• Shell:
  Aluminium alloy

• Shell plating:
  Conductive black zinc

• Insulator:
  Thermoplastic

• Grommet & seal:
  Liquid silicone rubber

• Contact:
  Copper alloy

• Contact plating:
  Gold

• Endurance:
  500 mating cycles

• Shock:
  300g for 3ms and EIA-364-27

• Vibration:
  147m/s², 10 to 2000Hz

• Contact retention:
  Size 26: 35 N
  Size 22D: 45 N
  Size 20: 60N
  Size 16: 100 N
  Size 12: 100 N
  Size 8: 110 N
  Size 4: 200 N

Climatic

• Operating temperature:
  -55°C to +175°C

• Sealing mated connectors:
  IP67 (1 metre for 30 min minimum)

• Salt spray:
  48 hours

Electrical

• Please see details in each section concerned
8STA Series
Integrated Clinch Nuts

Ordering information

Basic series 8STA P N 499
Shell type
0: Oval flange receptacle
2: Oval flange receptacle with PCB contacts
Shell size
02 - 04 - 06 - 08 - 10 - 12 - 14 - 16 - 18 - 20 - 22 - 24
Contact layout
See pages 10 to 13
Type of contact
P: Pin
S: Socket
Orientation
N: Red / A: Yellow / B: Blue / C: Orange / D: Green / U: Universal
Specification (mandatory)
499: Integrated nut on the flange - M2 insert for sizes 02 to 06 / M3 insert for sizes 08 to 24
528: Integrated nut on the flange - M2.5 insert for sizes 02 to 06

Dimensions

Oval flange receptacle

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<th>Ø E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
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Self locking nut (x2):

Panel cut out

Note: All dimensions are in millimeters (mm)
8STA Series
Integrated Clinch Nuts

Oval flange receptacle with PCB contacts

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</table>

For gaskets, please see page 58.

Note: All dimensions are in millimeters (mm)
### 8STA Series
#### High Density

### Description
- Derived from MIL-DTL-38999 & JN1003 standard
- Rugged aluminium body to ensure long service life in the harshest environment
- 100% scoop proof
- Available in 6 shell sizes: 02-05; 04-06; 06-09; 08-12; 10-26; 12-43
- Contacts #26 for AWG 24 to 30

### Technical features
#### Mechanical
- **Shell:** Aluminium alloy
- **Shell plating:** Conductive black zinc Nickel (F)
- **Insulator:** Thermoplastic
- **Grommet & seal:** Liquid silicone rubber
- **Contact:** Copper alloy
- **Contact plating:** Gold
- **Endurance:** 500 mating cycles
- **Shock:** 300g for 3ms and EIA-364-27
- **Vibration:** 147m/s², 10 to 2000Hz

### Climatic
- **Operating temperature:** -55°C to +175°C
- **Sealing mated connectors:** IP67 (1 metre for 30 min minimum)
- **Salt spray:** 48 hours

### Electrical
- **Contact resistance:** Size 26: 16mΩ
- **Insulation resistance:** ≥5000mΩ (at 500Vdc)
- **Contact rating:** Size 26: 3 Amp
- **Shell continuity:** ≤10mΩ
8STA Series
High Density

Ordering information

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<td>. M2 insert (shell type 0 &amp; 2 only for shell sizes 04 &amp; 06)</td>
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<td>. M3 insert (shell type 0 &amp; 2 only for shell sizes 08, 10 &amp; 12)</td>
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<td>523: Light weight in line receptacle - for shell sizes 08 to 12 (shell type 1 only)</td>
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<tr>
<td>528: Integrated clinch nut on the flange: M2.5 insert (shell type 0 &amp; 2 only for shell sizes 04 &amp; 06)</td>
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<tr>
<td>566: Rackable plug - for shell sizes 10 &amp; 12 (shell type 6 only)</td>
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Contact layouts

<table>
<thead>
<tr>
<th>02</th>
<th>04</th>
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<th>10</th>
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<tbody>
<tr>
<td>05</td>
<td>06</td>
<td>09</td>
<td>12</td>
<td>26</td>
<td>43</td>
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<tr>
<td>5#26</td>
<td>6#26</td>
<td>9#26</td>
<td>12#26</td>
<td>26#26</td>
<td>43#26</td>
</tr>
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</table>
8STA Series
PCB Connectors

Description

• Derived from MIL-DTL-38999 & Eurofighter JN 1003, 8STA connectors use the extensive SOURIAU range of 38999 medium and high density signal contact layouts
• Rugged aluminium body to ensure long service life in the harshest environment
• 8STA PCB connectors are available in shell sizes 02 to 24 (12 sizes)
• 100% scoop proof
• Available with clinch nut
• 6 colour coded keyway orientations

Technical features

Mechanical

• **Shell**: Aluminium
• **Shell plating**: Conductive black zinc
• **Insulator**: Liquid silicone rubber
• **Seal**: Liquid silicone rubber
• **Contact**: Copper alloy
• **Contact plating**: Gold
• **Endurance**: 500 matings/unmatings
• **Shock**: 300g for 3ms and EIA-364-27
• **Vibration**: 147 m/s², 10 to 2000 Hz

Electrical

• **Contact resistance:**
  - Size 26: 16 mΩ
  - Size 22D: 14.6 mΩ
  - Size 20: 7.3 mΩ
  - Size 16: 3.8 mΩ

• **Insulation resistance:**
  ≥ 5000 mΩ (at 500Vdc)

• **Contact rating:**
  - Size 26: 3 Amp
  - Size 22D: 5 Amp
  - Size 20: 7.5 Amp
  - Size 16: 13 Amp

• **Shell continuity**: ≤ 10 mΩ

Climatic

• **Temperature range**: -55°C to +125°C
• **Sealing mated connectors**: IP 67 (1 metre for 30 min minimum)
• **Salt spray**: 48 hours
8STA Series
PCB Connectors

Ordering information

<table>
<thead>
<tr>
<th>Basic series</th>
<th>8STA</th>
<th>2</th>
<th>12</th>
<th>35</th>
<th>P</th>
<th>N</th>
<th>-</th>
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<td></td>
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</tr>
<tr>
<td>2: Oval flange receptacle with PCB contacts</td>
<td></td>
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<tr>
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<tr>
<td>02; 04; 06; 08; 10; 12; 14; 16; 18; 20; 22; 24</td>
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<td>See pages 10 to 13</td>
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<td>P: Pin</td>
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<td>N; A; B; C; D; E (E only for size 02)</td>
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<td>528: Integrated clinch nut on flange (M2.5 for sizes 02, 04 &amp; 06)</td>
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<tr>
<td>571: Specific PC tail (length = 4.6mm) - only available for sizes 08 to 24 (see page 31)</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>625: Specific PC tail (length = 8.5mm) - only available for sizes 08 to 24 (see page 31)</td>
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Dimensions

Size 02

Note: All dimensions are in millimeters (mm)
8STA Series
PCB Connectors

Size 04

<table>
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<tr>
<th>Layouts</th>
<th>Contacts</th>
<th>ø A</th>
<th>ø B</th>
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<tr>
<td>04-35</td>
<td>3 contacts #22D</td>
<td>0.64 / 0.69</td>
<td>1.19 / 1.24</td>
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<tr>
<td>04-05</td>
<td>5 contacts #26</td>
<td>0.49 / 0.54</td>
<td>1.1 / 1.15</td>
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For contact P/N, please consult us

Sizes 08 to 24

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<td>17.21</td>
<td>16.05</td>
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<td>25.40</td>
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<td>49.50</td>
<td>49.50</td>
<td>49.50</td>
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</table>

Note: All dimensions are in millimeters (mm)
8STA Series
PCB Connectors

Specific PCB versions

**Specification 571**
Available from shell sizes 08 to 24 with layouts using contacts #22D et #20
Specific tail length = 4.6 mm
Also available with clinch nut: please consult us.

**Specification 625**
Available from shell sizes 08 to 24 with layouts using contacts #22D et #20
Specific tail length = 8.5 mm
Also available with clinch nut: please consult us.

**Dimensions**

<table>
<thead>
<tr>
<th>Shell size</th>
<th>A Max</th>
<th>B</th>
<th>ØC</th>
<th>ØD</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>ØH Max</th>
<th>L Max</th>
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<tbody>
<tr>
<td>08</td>
<td>16.5</td>
<td>21.4</td>
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<td>12</td>
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<td></td>
<td>11.1</td>
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<td>10</td>
<td>19.5</td>
<td>25.9</td>
<td></td>
<td></td>
<td>14.97</td>
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<td>12</td>
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<td>25.4</td>
<td></td>
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<td></td>
<td>28.57</td>
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<td></td>
<td>26.91</td>
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<td></td>
<td>31.77</td>
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<td></td>
<td>30.11</td>
<td>47.8</td>
</tr>
<tr>
<td>22</td>
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<td>34.9</td>
<td></td>
<td></td>
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<td>24</td>
<td>43.4</td>
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<td>3.77</td>
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<td>38.1</td>
<td>18.2</td>
<td></td>
<td>36.4</td>
<td>55.8</td>
</tr>
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</table>

*Note: All dimensions are in millimeters (mm)*
8STA Series
Power Contacts

Description

• A #4 contact for a wide range of wire sizes:
  Size 8, 10, 16, 25 & 35 mm²

• Easy visual wire identification:
  Coloured band on contact

• Allow the use of small wire sections:
  Reducer for wires 8 & 10 mm² in contact barrel 16mm²

• Ideal for high power applications:
  Up to 200A continuous (12-01 specif. 261)

• Space & cost saving with mixed connectors:
  Only one connector instead of 2 to transmit signal & power

Technical features

Mechanical

• Shell:
  Aluminium alloy

• Shell plating:
  Conductive black zinc

• Insulator:
  Thermoplastic

• Grommet & seal:
  Liquid silicone rubber

• Contact:
  Copper alloy

• Contact plating:
  Gold over nickel

• Endurance:
  500 mating cycles

• Shock:
  300g for 3ms and EIA-364-27

• Vibration:
  147m/s², 10 to 2000Hz

• Contact retention:
  Size 22D: 45 N
  Size 16: 100 N
  Size 8: 110 N

Climatic

• Operating temperature:
  -55°C to +175°C

• Sealing mated connectors:
  IP67 (1 metre for 30 min minimum)

• Salt spray:
  48 hours

Electrical

• Test voltage:

<table>
<thead>
<tr>
<th>Service</th>
<th>M</th>
<th>N</th>
<th>I</th>
<th>II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sea level</td>
<td>1300</td>
<td>1000</td>
<td>1800</td>
<td>2300</td>
</tr>
</tbody>
</table>

• Contact resistance:
  Size 22D: 14.6 mΩ
  Size 20: 7.3 mΩ
  Size 16: 3.8 mΩ
  Size 12: 3.5 mΩ
  Size 8: 3 mΩ
  Size 4: 2 mΩ

• Insulation resistance:
  ≥ 5000 mΩ (at 500 Vdc)

• Contact rating:
  Size 22D: 5 A
  Size 20: 7.5 A
  Size 16: 13 A
  Size 12: 23 A
  Size 8: 45 A
  Size 4: 80 A

• Shell continuity:
  ≤ 10 mΩ
8STA Series
Power Contacts

Ordering information

Basic series 8STA 0 12 01 P N 261

Shell type
- 0: Oval flange receptacle (for front or rear mounting)
- 1: In-line receptacle
- 6: Plug
- 7: Jam nut receptacle

Shell size: 10 - 12 - 16 - 18 - 20 - 24

Contact layout: See below

Type of contact
- P: Pin
- A: without pin contacts (specifications 261 & 545 only)
- S: Socket
- B: without socket contacts (specifications 261 & 545 only)

Orientation: N: Red / A: Yellow / B: Blue / C: Orange / D: Green / U: Universal

Specification
- None: for contact layouts 20-48 & 24-44
- 251: for contact layouts 10-80, 16-02, 16-75, 18-18, 20-75, 20-78, 24-07, 24-41 & 24-46
- 261: only for 12-01
- 540: Layout 12-01 with protected socket
- 545: Layout 24-44 - delivered with contact #16 & without contact #4

Note:
1) Standard connector (8STA(x120)yz261 where x = shell type; y = type of cts; z = orientation) is provided with power contacts for 16mm² wire.
2) For 10mm² wire, order standard connector (note 1) + reducing sleeve 8400 2351 A separately.
3) For 25mm² wire, order connector without contact, see A & B details in type of contact (ex: 8STA(x120)Az261 or Bz261 - contact separately (pin: 8599 7598 900 & socket: 8599 7599 900)
4) For 35mm² wire, order connector without contact, see A & B details in type of contact (ex: 8STA(x120)Az261 or Bz261 - contact separately (pin: 8599 0313 & socket: 8599 0316)

Note:
Specif. 545 = connector delivered with contact #16 & without power contact #4 & boots, power contact #4 to be ordered separately according wire section to be used (see table next page)

Contact layouts

10

80 spc 251
1 #B power Service I

12

01 spc 261
1 #4 power Service M

16

02 spc 251
1 #8 power Service M

18

07 spc 251
2 #8 power Service M

20

48 spc 251
4 #8 power Service I

24

07 spc 251
2 #8 power 97 #22D Service M

41 spc 251
22 #22D Service N

44 spc 251
4 #4 power 4 #16 Service I

46 spc 251
2 #8 power 4 #16 40 #20 Service I
## Power contacts

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<thead>
<tr>
<th>Designation</th>
<th>Wire 16 mm²</th>
<th>Wire 25 mm²</th>
<th>Wire 35 mm²</th>
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<tbody>
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<td></td>
<td>Removable contact</td>
<td>Non removable contact</td>
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</tr>
<tr>
<td>Colour band</td>
<td>Red</td>
<td>Blue</td>
<td>Green</td>
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<tr>
<td>Pin contact</td>
<td>8599 7520A 900</td>
<td>8599 7598 900</td>
<td>8599 0313</td>
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<td>Socket contact</td>
<td>8599 7521A 900</td>
<td>8599 7599 900</td>
<td>8599 0316</td>
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<td>Reducer - wire 8 &amp; 10 mm²</td>
<td>8400 2351A</td>
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<td>Crimping tool</td>
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<td>M22520/23-01</td>
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<td>+ Die M22520/23-04</td>
<td>+ Positionner M22520/23-11</td>
<td>+ Die 8599-0319</td>
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<td></td>
<td>And for wider 50 mm² :</td>
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<td>M22520/23-01</td>
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<td>+ Positionner WA23-176L</td>
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<td>+ Die WA23-4</td>
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<td>+ Positionner WA23-176L</td>
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<tr>
<td>Plastic extraction tool</td>
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<td>(blue)</td>
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### Dimensions

#### Size 4 power contact

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<th>Cable section</th>
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<td>Colour band</td>
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</table>

#### Reducer for wire 8 & 10 mm²

Compatible with pin & socket contact / wire 16 mm²

Note: All dimensions are in millimeters (mm)
8TA Series
Compact Low Profile

Technical features

Mechanical
• Shell: Aluminium alloy
• Shell plating: Conductive black zinc
• Insulator: Thermoplastic
• Grommet & seal: Liquid silicone rubber
• Contact: Copper alloy
• Contact plating: Gold
• Endurance: 500 matings/unmatings operations
• Shock: 300g for 3ms and EIA-364-27
• Vibration: random 100 to 1000 Hz - 1 g²/Hz
• Contact retention: 45 N

Climatic
• Operating temperature: -55°C to +175°C
• Sealing mated connectors: IP67 (1 metre for 30 min minimum)
• Salt spray: 48 hours

Electrical
• Test voltage: 1300 Vrms (sea level)
• Contact resistance: <14.6 mΩ
• Insulation resistance: ≥ 5000 mΩ (at 500 Vdc)
• Contact rating: 5 A
• Shell continuity: <60 mΩ

Description
• Rugged aluminium body to ensure long service life in the harshest environment
• Compact low profile derived from MIL-DTL-38999 Series 2
• 6 gold plated #22D contacts
• Environment sealing from interfacial seal and rear grommet
• Positive locking mechanism with locked colour indicators 3 keyway orientations
• Not scoop proof
• Conductive black zinc plating
8TA Series
Compact Low Profile

Ordering information

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<tr>
<td></td>
<td>Oval flange receptacle (for front or rear mounting)</td>
<td></td>
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<tr>
<td></td>
<td>1: In-line receptacle</td>
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</tr>
<tr>
<td></td>
<td>6: Plug</td>
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<tr>
<td></td>
<td>7: Jam nut receptacle</td>
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<td>08</td>
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<td>35 (6 contacts #22D)</td>
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<tr>
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<td>P: Pin</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>S: Socket</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Orientation</td>
<td>N: Red / A: Yellow / D: Green</td>
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</tbody>
</table>

Dimensions

### Plug

![Plug Dimensions](image1)

Marking P/N connector on over ink colour band

### In-line receptacle

![In-line Receptacle Dimensions](image2)

Marking P/N connector on over ink colour band

### Oval flange receptacle

![Oval Flange Receptacle Dimensions](image3)

Marking P/N connector on over ink colour band

Note: All dimensions are in millimeters (mm)
8TA Series
Compact Low Profile

Jam nut receptacle

Marking P/N connector on over ink colour band

Panel cut out

Orientation

Viewed from face of receptacle

Viewed from face of plug

Key positions | Alpha 1 | Colour band
--- | --- | ---
N | 100° | Red
A | 82° | Yellow
D | 118° | Green

Note: All dimensions are in millimeters (mm)
8STA/8TA Series

Derived Series

- Quick release for steering boss system ................................................................. 40
- Blind mating plug .................................................................................................... 42
- Through bulkhead .................................................................................................. 44
- Hermetic shell size 02 ........................................................................................... 46
- Hermetic fuel tank ................................................................................................ 48
- Fuel immersible ....................................................................................................... 50
8STA Series
Quick Release for Steering Boss System

Technical features

Mechanical
• Shell: Aluminium
• Shell plating: Conductive black zinc
• Insulator: Thermoplastic
• Grommet & seal: Liquid silicone rubber
• Contact: Copper alloy
• Contact plating: Gold

Endurance: 500 matings/unmatings operations
Shock: 300g for 3ms and EIA-364-27
Vibration: 147m/s², 10 to 2000Hz

Climatic
• Operating temperature: -55°C to +175°C
• Sealing mated connectors: IP67 (1 metre for 30 min minimum)
• Salt spray: 48 hours

Electrical
• Contact resistance: Size 22D: 14.6mΩ
  See 8STA catalog for other contact size.
• Insulation resistance: ≥ 5000mΩ @ 500Vdc
• Contact rating: Size 22D: 5 Amp
  See 8STA catalog for other contact size.
• Shell continuity: ≤ 10mΩ

Description
• Rugged aluminium body to ensure long service life in the harshest environment.
• 100% scoop proof.
• Available in 2 shell sizes: 10 & 12 (Please consult us for other sizes).
• Standard insulators shell sizes 10 & 12 available.

Ordering information

<table>
<thead>
<tr>
<th>Basic series</th>
<th>8STA</th>
<th>6</th>
<th>12</th>
<th>35</th>
<th>P</th>
<th>N</th>
<th>518</th>
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<tr>
<td>P: Pin</td>
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</tr>
<tr>
<td>S: Socket</td>
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<td></td>
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8STA Series
Quick Release for Steering Boss System

Dimensions

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<tr>
<th>Shell size 10</th>
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<td><strong>Female Receptacle</strong></td>
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<td>Location for locking screw</td>
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<td>Ø2±0.5</td>
<td>Ø2±0.5</td>
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<tr>
<td>3.5±0.05</td>
<td>1.03/1.22</td>
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<tr>
<td>33.53/33.67</td>
<td>33.53/33.67</td>
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<table>
<thead>
<tr>
<th><strong>Male Plug</strong></th>
<th><strong>Male Plug</strong></th>
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<tbody>
<tr>
<td>5.81/6.24</td>
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<td>36.45/36.50</td>
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<td>2.01/2.09</td>
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<table>
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<tr>
<th><strong>Mounting dimension requirement</strong></th>
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<tbody>
<tr>
<td>Shell size 10</td>
</tr>
<tr>
<td>22.53 Max</td>
</tr>
<tr>
<td>54.87/56.03</td>
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</tbody>
</table>

| Shell size 12                     |
| 23±0.5                           |
| 56.105 Max                       |

Note: All dimensions are in millimeters (mm)
8STA Series
Blind Mating Plug

Technical Features

Mechanical

- Shell: Aluminium alloy
- Shell plating: Conductive black zinc
- Insulator: Thermoplastic
- Grommet & seal: Liquid silicone rubber
- External cover: Green fluoro silicone
- Contact: Copper alloy
- Contact plating: Gold
- Contact retention:
  Size 22D: 45N  
  Size 20: 60N  
  Size 16: 100N  
  Size 12: 100N  
  Size 8: 110N  
  Size 4: 200N
- Flange dimension:
  - Flange of plug size 16 equivalent to receptacle size 22
  - Flange of plug size 14 equivalent to receptacle size 20
  - Flange of plug size 12 equivalent to receptacle size 18
  - Flange of plug size 10 equivalent to receptacle size 16

Climatic

- Temperature range: -55°C to +175°C
- Sealing mated connectors:
  - IP67 (1 meter for 30 min. minimum)
- Salt spray: 48 hours

Electrical

- Test voltage

<table>
<thead>
<tr>
<th>Service</th>
<th>M</th>
<th>N</th>
<th>I</th>
<th>II</th>
</tr>
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<tbody>
<tr>
<td>Sea level</td>
<td>1300</td>
<td>1000</td>
<td>1800</td>
<td>2300</td>
</tr>
</tbody>
</table>

- Contact resistance:
  - Size 22D: 4.6 mΩ
  - Size 20: 7.3 mΩ  
  - Size 16: 3.8 mΩ  
  - Size 12: 3.5 mΩ  
  - Size 4: 2 mΩ
- Insulation resistance:
  - ≥ 5000 mΩ (at 500 Vdc)
- Contact rating:
  - Size 22D: 5A  
  - Size 20: 7.5A  
  - Size 16: 13A  
  - Size 12: 23A  
  - Size 8: 45A  
  - Size 4: 80A

Compensating for misalignment in 3 axes

- Blind mating solution for quick connection in hard-to-reach areas.
- Specific 8STA plug:
  - Compensating for misalignment in 3 axes.
- Blind connection:
  - Easy & fast connection without any coupling / uncoupling between float-mounting unit & fixed unit.
  - 100% Scoop proof.
- A versatile product:
  - Available in sizes 10, 12, 14 & 16
  - All layouts according connector shell size.
  - Available in crimp contacts.
- Mandatory mating part:
  - Standard jam nut receptacle 8STA7

Description

- Blind mating solution for quick connection in hard-to-reach areas.
- Specific 8STA plug:
  - Compensating for misalignment in 3 axes.
- Blind connection:
  - Easy & fast connection without any coupling / uncoupling between float-mounting unit & fixed unit.
  - 100% Scoop proof.
- A versatile product:
  - Available in sizes 10, 12, 14 & 16
  - All layouts according connector shell size.
  - Available in crimp contacts.
- Mandatory mating part:
  - Standard jam nut receptacle 8STA7
8STA Series
Blind Mating Plug

Ordering information

<table>
<thead>
<tr>
<th>Series</th>
<th>8STA</th>
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<th>12</th>
<th>35</th>
<th>S</th>
<th>N</th>
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<td>Contact layouts</td>
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<tr>
<td>Type of contacts</td>
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</tr>
<tr>
<td>Orientation</td>
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<td>566: Rackable plug</td>
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Dimensions

Plug Type 6

<table>
<thead>
<tr>
<th>Shell size</th>
<th>ØA</th>
<th>ØB</th>
<th>ØC</th>
<th>D</th>
<th>E</th>
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Note: All dimensions are in millimeters (mm)
# 8STA Series
## Through Bulkhead

### Description

- Significant time saving advantage over conventional plugs & receptacles:
  - Double receptacle mounted on panel
- Male / female single way power contact #4 in a shell size 12
- Easy identification with colour coded bands:
  - 5 visual keyway orientations
- Simplified connection through a bulkhead, eliminating hard wiring to the panel on one side
- Ideal for external use (dust, water etc.):
  - IP67 (interfacial & mating seals)

###Technical features

- Easy mating/unmating on both sides of the bulkhead
- Simplifies maintenance procedures having a detachable connector on each side of the bulkhead

### Mechanical

- **Shell:**
  - Aluminium alloy
- **Shell plating:**
  - Conductive black zinc
- **Insulator:**
  - Thermoplastic
- **Grommet & seal:**
  - Liquid silicone rubber
- **Contact:**
  - Copper alloy
- **Contact plating:**
  - Gold over nickel
- **Endurance:**
  - 500 mating cycles
- **Shock:**
  - 300g for 3ms and EIA-364-27
- **Vibration:**
  - 147m/s², 10 to 2000Hz
- **Contact retention:**
  - 200 N

### Climatic

- **Operating temperature:**
  - -55°C to +175°C
- **Sealing mated connectors:**
  - IP67 (1 metre for 30 min minimum)
- **Salt spray:**
  - 48 hours

### Electrical

- **Test voltage:**
  - 1300 Vrms (sea level)
- **Contact resistance:**
  - 2 mΩ
- **Insulation resistance:**
  - ≥ 5000 mΩ (at 500 Vdc)
- **Contact rating:**
  - 200A for use in 35°C max environnement
  - For derating curve, please contact us
8STA Series
Through Bulkhead

Ordering information

<table>
<thead>
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<th>Basic series</th>
<th>8STA</th>
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<tr>
<td>Orientation</td>
<td>N:</td>
<td>Red / A: Yellow / B: Blue / C: Orange / D: Green / U: Universal</td>
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<td>Through Bulkhead connector</td>
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</tbody>
</table>

Dimensions

Through Bulkhead receptacle

Panel cut out

Gasket

Shell size | Part number | A | B | Ø C | Ø D |
---|-------------|---|---|-----|-----|
12 | 8525-1433 | 26.18 | 20.62 | 19.05 | 3.30 |

Note: All dimensions are in millimeters (mm)
8STA Series
Hermetic Shell Size 02

Description

• The smallest hermetic circular 5 way PC tail connector on the market
• Lightweight 8STA connector: 3 grs max
• Suitable for welding directly to sensor bodies: Designed for weld fixing
• Excellent corrosion resistance: Stainless steel body
• Excellent hermeticity: Hermetic glass bead (1.10^-7 cm^3/s)
• Intermateable with standard plug size 02-05
• Easy identification with colour coded bands: 7 visual keyway orientations
• Rapid & secure locking system with audible click: Bayonet connector

Technical features

Mechanical

• Shell: Stainless steel
• Shell plating: Passivated
• Insulator: Glass bead
• Contact: Iron-Nickel (NiFe2)
• Contact plating: Nickel
• Endurance: 500 mating cycles
• Shock: 300g for 3ms and EIA-364-27
• Vibration: 10 to 2000 Hz 30g

Climatic

• Operating temperature: -55°C to +175°C
• Sealing mated connectors: IP67 (1 metre for 30 min minimum)
• Salt spray: 48 hours
• Hermeticity: 1.10^-7 cm^3/s

Electrical

• Test voltage: 400V (sea level)
• Contact resistance: 2 mΩ
• Insulation resistance: ≥5000MΩ (at 500Vdc)
• Contact rating: 3 Amp
8STA Series
Hermetic Shell Size 02

Ordering information

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<td>Type of contact</td>
<td>P: Pin contacts</td>
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<td></td>
</tr>
<tr>
<td>Orientation</td>
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</tbody>
</table>

Dimensions

Note: All dimensions are in millimeters (mm)
8STA Series
Hermetic Fuel Tank

Description

• Hermetically sealed connector: 
  \[1.1 \times 10^{-7} \text{ cm}^3/\text{s} \at \text{15PSI}\]

• Withstands pressure differential without loss of electrical performances: Glass to metal insert

• Excellent resistance to racing fuels & fluids: Viton® interfacial seal

• Excellent corrosion resistance: Stainless steel material

• Low profile design for heat shrink boot & cost effective connector

• Integrated backshell

Technical features

Mechanical

• Shell: Stainless steel

• Shell plating: Passivated

• Insulator: Glass bead

• Contact: Nickel iron

• Contact plating: Gold

• Endurance: 500 mating cycles

• Shock: 300g for 3ms and EIA-364-27

• Vibration: 10 to 2000 Hz 30g

Climatic

• Operating temperature: 
  \(-55\degree\text{C} \text{to} +175\degree\text{C}\)

• Sealing mated connectors: 
  IP67 (1 metre for 30 min minimum)

• Salt spray: 
  48 hours

• Hermeticity: 
  \[1.1 \times 10^{-7} \text{ cm}^3/\text{s}\]

Electrical

• Test voltage: 
  1800V / Service (sea level)

• Contact resistance: 
  2 mΩ

• Insulation resistance:
  \[\geq 5000\Omega \text{ at } 500\text{Vdc}\]

• Contact rating:
  Size 16: 10 A
  Size 20: 5 A
  Size 22D: 3 A

Climatic

• Operating temperature: 
  \(-55\degree\text{C} \text{to} +175\degree\text{C}\)

• Sealing mated connectors: 
  IP67 (1 metre for 30 min minimum)

• Salt spray: 
  48 hours

• Hermeticity: 
  \[1.1 \times 10^{-7} \text{ cm}^3/\text{s}\]

Ordering information

Basic series 8STA 7 Y 10 98 P N 022

Shell type 7: Jam nut receptacle

Class Y: Hermetic version

Shell size 10, 12, 14

Contact layout See next page for layouts available

Type of contact P: Pin contacts

Orientation N: Red (please consult us for other orientation)

Specification (mandatory) 022: Fuel immersible version
**8STA Series**
**Hermetic Fuel Tank**

**Contact layouts** *(viewed from front face of male insulator)*

<table>
<thead>
<tr>
<th>Shell size</th>
<th>( \phi A ) max.</th>
<th>( \phi B ) max.</th>
<th>( C ) max.</th>
<th>( \phi D ) max.</th>
<th>E Thread</th>
<th>Panel cut out</th>
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</thead>
<tbody>
<tr>
<td>10</td>
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<td>25.95</td>
<td>20.50</td>
<td>M18 x 1</td>
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<tr>
<td>12</td>
<td>19.09</td>
<td>33.00</td>
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<td>33.85</td>
<td>26.84</td>
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<td>25.70</td>
</tr>
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</table>

*Note: All dimensions are in millimeters (mm)*
8STA/8TA Series
Fuel Immersible

Description

• Available for 8STA & 8TA Series
• Continuous immersion without loss of performance: Special fuel resistant insert
• Excellent connector sealing on panels by using the jam nut version

Technical features

Mechanical

• Shell: Aluminium alloy
• Shell plating: Conductive black zinc
• Insulator: Thermoplastic
• Grommet & seal: Fluoroelastomer
• Contact: Copper alloy
• Contact plating: Gold
• Endurance: 500 mating cycles
• Shock: 300g for 3ms and EIA-364-27
• Vibration:
  . 8STA: 147m/s², 10 to 2000Hz
  . 8TA: random 100 to 1000 Hz - 1G²/Hz
• Contact retention: (8TA: Size 22D only)
  Size 22D: 45 N
  Size 20: 60N
  Size 16: 100 N
  Size 12: 100 N

Climatic

• Operating temperature: -55°C to +175°C
• Sealing mated connectors: IP67 (1 metre for 30 min minimum)
• Salt spray: 48 hours

Electrical

• Test voltage: 1300 Vrms
• Contact resistance: (8TA: Size 22D only)
  Size 22D: 14.6 mΩ
  Size 20: 7.3 mΩ
  Size 16: 3.8 mΩ
  Size 12: 3.5 mΩ
• Insulation resistance:
  ≥ 5000 mΩ (at 500 Vdc)
• Contact rating: (8TA: Size 22D only)
  Size 22D: 5 A
  Size 20: 7.5 A
  Size 16: 13 A
  Size 12: 23 A
• Shell continuity:
  ≤10 mΩ

Resistance to fluids

• Withstands most of Motorsport fluids
8STA/8TA Series
Fuel Immersible

Ordering information

<table>
<thead>
<tr>
<th>Basic series</th>
<th>8STA</th>
<th>0</th>
<th>08</th>
<th>35</th>
<th>P</th>
<th>N</th>
<th>N</th>
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<td>0: Oval flange receptacle</td>
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<td>04, 08, 10, 12, 14, 16</td>
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<td>Specification (mandatory)</td>
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Contact layouts

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<td>08</td>
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For both 8STA & 8TA, all others being for 8STA only.
# Common Section

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- PCB contacts ....................................................................... 55

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## Contacts

### Crimp contacts

<table>
<thead>
<tr>
<th>Contact size</th>
<th>Shell size &amp; layout</th>
<th>Contact type</th>
<th>Contact Ø max.</th>
<th>Part numbers</th>
<th>Admissible wire section</th>
<th>External Ø over insulation (mm)</th>
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<td>M39029/76 424</td>
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<td>M39029/91 530</td>
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<td></td>
<td></td>
<td>M39029/90 529</td>
<td>M39029/91 530</td>
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<td></td>
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<td>Boot</td>
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<td>M39029/91 530</td>
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<td>Power contact</td>
<td>Shell sizes 08 to 24</td>
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<td>8400-2351A</td>
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* Reductor must be used for wire 8 mm²

** Reductor must be used for wire 8 & 10 mm²

Note: All dimensions are in millimeters (mm)
## Contacts

### PCB contacts

<table>
<thead>
<tr>
<th>Contact size</th>
<th>Shell size &amp; layouts</th>
<th>Contact type</th>
<th>Contact Ø</th>
<th>Part numbers</th>
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<tbody>
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<td>F1P1ES3-2201A00</td>
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<td>Shell sizes 08 to 24</td>
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</table>

Note: All dimensions are in millimeters (mm)
## 8STA/8TA Series Common Section

### Tooling

#### Crimp contacts

**8TA Series & 8STA Series size 02, 04 & 06**

<table>
<thead>
<tr>
<th>Contact size</th>
<th>Wire size</th>
<th>Shell size &amp; layout</th>
<th>Contact type</th>
<th>Spec. SOURIAU</th>
<th>Tool part number</th>
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<tbody>
<tr>
<td>22D</td>
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<td>02-35 04-35 06-35 08-35 (8TA only)</td>
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<td>8476-09</td>
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**8STA Series size 08 to 24**

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<td>Spec. SOURIAU</td>
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</table>

**Crimp contacts**

**8STA Series size 02, 04 & 06**

- Male: M22520/2-09 8476-09
- Female: M22520/2-06 8476-06

**8STA Series size 08 to 24**

- Male: M22520/2-09 8476-09
- Female: M22520/2-07 8476-07

**M22520/1-01 + M22520/1-04**

**M22520/2-01 + M22520/2-09 & M22520/2-07**

**M22520/23-01**
8STA/8TA Series
Common Section

Tooling

Wire stripping

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Insertion & extraction tools

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<td>8599-0444 900 Blue Red</td>
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<td>26 Shell sizes 08 to 24</td>
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<td>Yellow White</td>
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## Accessories

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Not available for #26.

---

### Boots

#### 8STA Series

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#### 8TA Series

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### 8STA/8TA Series
#### Common Section

#### Accessories

**Shrinkable termination detail**

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</table>

*Note: All dimensions are in millimeters (mm)*

**Nut plates**

- Nut plates are available for all 8STA (sizes 02 to 24) two holes flanges mounted connector receptacles.
- Their design was specially made for Motorsport market.

<table>
<thead>
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**Gaskets**

- Gaskets are available for all 8STA sizes (02 to 24)
- They are available in two versions:
  - Standard version: Liquid silicone rubber
  - Fuel tank version: Fluorel

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### Accessories

#### Plug metal protective cap & lanyard

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Cord material: Nylon  
Cap plating: Black anodic oxidation

#### Receptacle metal protective cap & lanyard

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Cord material: Nylon  
Cap plating: Black anodic oxidation

*Note: All dimensions are in millimeters (mm)
## Accessories

### Metal protective cap

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Note: All dimensions are in millimeters (mm)
8STA/8TA Series

Range Extension

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<td>High power contact</td>
<td>64</td>
</tr>
<tr>
<td>micro38999: 8BA Series</td>
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<tr>
<td>Composite connectors</td>
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<tr>
<td>UTS Series</td>
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</table>
8STA/8TA Series

Products Range Extension

209 Series

Terminal Blocks for Power Distribution. Distribution of electrical current for aircraft equipment.

Versatility:
- The terminal blocks allow connection from 1 to 12 terminals.
- A shunt can link the terminals.

Easy to install:
- Screw mounting.
- Covers are available to electrically and mechanically protect the connections.

Flight proven:

Airbus qualified:
- NSA 937903 / 937904 / 937905 / 937906.
- ASNE 0421 / 0467.

See «209 Series Terminal Blocks» product news on www.souriau.com

High Power Contact

38999 High Power (up to 850A). Designed to meet the harshest military requirement where high power and shielding are needed.

3 aluminum shell sizes available:
- Size 19 (450A max); size 23 (650A max); size 25 (850A max).
- Different finish: cadmium, zinc nickel, electroless nickel.
- Threaded coupling.

Superior contact technology equipped with a silver plated braid:
- High contact endurance.
- Low contact resistance.
- No microcut under vibration.

Modular design for easy installation:
- Removable backshell: straight, right angle or bus bar.
- Backshell termination: for thread or shrink boot.
- Possible to crimp various cable (Ø from 50 to 185mm).

Safety.

See «38999 Series III - High Power Contacts» product news on www.souriau.com
8STA/8TA Series

Products Range Extension

Composite Connectors

SOURIAU leader on composite circular connectors. Denser and lighter than MIL-C-26500 and 852. Better performances compared to 38999 Series III at similar price.

Low weight:
- Up to 25% weight saving compared to aluminum.

High performance:
- According to D38999 (QPL approved).
- 1500 hours salt spray.

Superior design:
- Match the latest lightning strike and 230V requirement.

8BA Series

Miniature Product with a Break Away Release. Space saving with scoop proof connector for harsh and EMI applications.

A compact and high density solution:
- Diameter up to 45% smaller than size 9 (D38999).
- Up to 50% shorter.
- Integrated backshell: Cost and space saving.
- #26 & #22 contacts

Excellent features:
- Designed for D38999 requirements.
- IP67 sealing when mated.
- Ballseal (EMI).
- Stainless steel shell (1500 matings) & aluminum shell (500 matings).

RoHS and Cadmium free:
- Available in zinc nickel (RoHS) plating.
- Nickel and olive drab cadmium plating available.
8STA/8TA Series

Products Range Extension

**microComp® Series**

To respond to miniaturization and weight saving trends in aeronautical and defense applications SOURIAU has developed an innovative high density connector range.

**Very light & high density:**
- Shell in composite (or aluminum).
- Up to 66% lighter than HD D-Sub.
- Very high density up to 40% smaller than HD D-Sub.

**Excellent features:**
- With crimp removable contacts for wire AWG 24 to 28
- Temperature up to 175°C
- High vibration and shock withstanding
- Standard MIL-STD 8351B accessories
- Compatible with high speed data rates (Gigabit Ethernet...)

**Quick connect version for harsh environment:**
- 104 contacts push-push

---

**UTS Series**

The UTS series is a plastic connector range but rugged enough to withstand industrial applications.

**A wide range:**
- Based on multiple power & signal connectors and offers everything from box mounted receptacles and cable mounted plugs to cable mounted in-line and PCB mounted receptacles.
- Almost all ways to accommodate wires exist: crimp, solder, screw termination.

**A philosophy built around three key elements:**
- Dynamic IP68/69K
- UV Resistant
- UL/IEC Compliant

See «microComp® Series - Miniature High Density» catalog on www.souriau.com

See «UTS Series» catalog on www.souriau.com