



# 8STA/8TA Series

## Compact Circular Connectors

Derived from JN1003 & MIL-DTL-38999



# Company Profile



## SOURIAU

**The extreme environment interconnect specialist «from deep sea to deep space»**

*The company designs, manufactures and markets high performance interconnect solutions for severe environments from industrial broadband and universal ranges to complex system with integrated functions: filtering, high speed data transmission, hermetic seal, separation mechanism, remote handling, underwater mating, ...*



*Industrial*



*Aeronautical*



*Equipment & System*

*The dedicated end markets for SOURIAU's products are aeronautical, defense-space and industrial*



*Railway  
Geophysics  
Manufacturing environment  
Instrumentation  
Automation & process  
Motorsport*



*Civil & military aircraft  
Helicopter  
Weapon delivery system  
Avionics*



*Military marine  
Communications  
Satellites  
Launcher & missile*

*SOURIAU was established in 1917 and has been created by successive acquisitions of the industrial, aeronautical, defense and space activities of SOURIAU, JUPITER and BURNDY.*

*The Group's products are engineered and manufactured in the USA and Dominican Republic, Europe and Morocco, Japan and India, and sold by a worldwide sales and marketing organization, and in addition to SOURIAU's offices, a large network of licensed distributors and agents.*

*SOURIAU complies with most of national and international Quality Assurance Standards, production unit with ISO 14001*

**Quality Certificate  
Management System**

**ISO 9001**

**Environment Certificate  
Management System**

**ISO 14001**

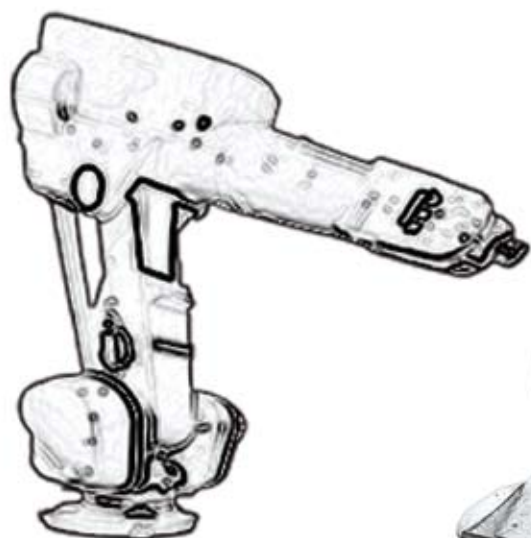
**Quality Certificate  
Management System**

**Aeronautic Industry : EN 9100**



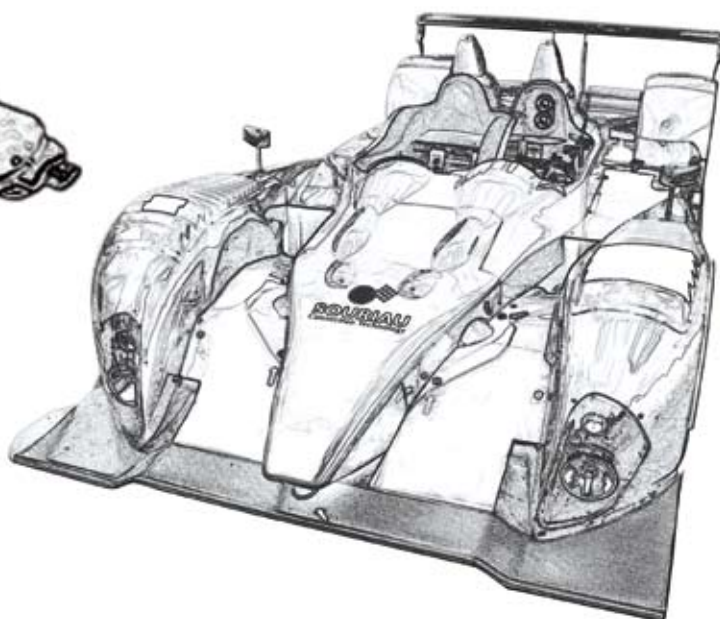
## Contents

|                                        |              |
|----------------------------------------|--------------|
| <b>Company Profile</b> .....           | <b>2</b>     |
| <b>Contents</b> .....                  | <b>3</b>     |
| <b>Overview</b> .....                  | <b>4-5</b>   |
| <b>Contact layouts</b> .....           | <b>6-8</b>   |
| <b>Standard 8STA connectors</b> .....  | <b>9-32</b>  |
| • 8STA shell size 02 .....             | 9-12         |
| • 8STA shell size 04 .....             | 13-16        |
| • 8STA shell size 06-05 .....          | 17-20        |
| • 8STA shell size 06-35 .....          | 21-24        |
| • 8STA shell size 08-24 .....          | 25-32        |
| <b>Specific 8STA connectors</b> .....  | <b>33-58</b> |
| • 8STA High Density .....              | 33-36        |
| • 8STA Power .....                     | 37-44        |
| • 8STA with Integrated Clinchnut ..... | 45-48        |
| • 8STA Hermetic shell size 02 .....    | 49-50        |
| • 8STA Hermetic Fuel Tank .....        | 51-52        |
| • 8STA/8TA Fuel Immersible .....       | 53-56        |
| • 8STA Through Bulkhead .....          | 57-58        |
| <b>8TA connector</b> .....             | <b>59-62</b> |
| <b>Accessories</b> .....               | <b>63</b>    |



**INDUSTRIAL**

**MOTORSPORT**



For further information on 8STA connectors, visit our website [www.motorsport-connectors.com](http://www.motorsport-connectors.com)  
or contact us at [contactindustry@souriau.com](mailto:contactindustry@souriau.com)



# Overview



## Introduction

8STA & 8TA circular connectors are derived from international military specifications MIL-DTL-38999 & Eurofighter JN 1003, 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 worlds smallest, & now most popular connector of this type; 8STA size 2. 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 2 connectors and High Density 8STA with pin counts normally associated with much larger connectors.

8STA & 8TA connectors are recommended for harsh environment applications where size and weight should be minimized, such as Motorsport, Industrial applications, Unmanned Aerial Vehicles, Rugged Instrumentation, Future Soldier electronics etc.



**8STA shell size 02** - page 9 to 12



**8STA shell size 04** - page 13 to 16



**8STA shell size 06-05** - page 17 to 20



**8STA shell size 06-35** - page 21 to 24



**8STA shell size 08 to 24** - page 25 to 32



**8STA High Density** - page 33 to 36

# Overview



**8STA Power & Mixed signal/power** - page 37 to 44



**8STA with Integrated Clinchnut** - page 45 to 48



**8STA Hermetic shell size 02** - page 49 to 50



**8STA Hermetic Fuel Tank** - page 51 to 52



**8STA / 8TA Fuel Immersible** - page 53 to 56



**8STA Through Bulkhead** - page 57 to 58



**8STA Grounded Connector** - page 11 & 59

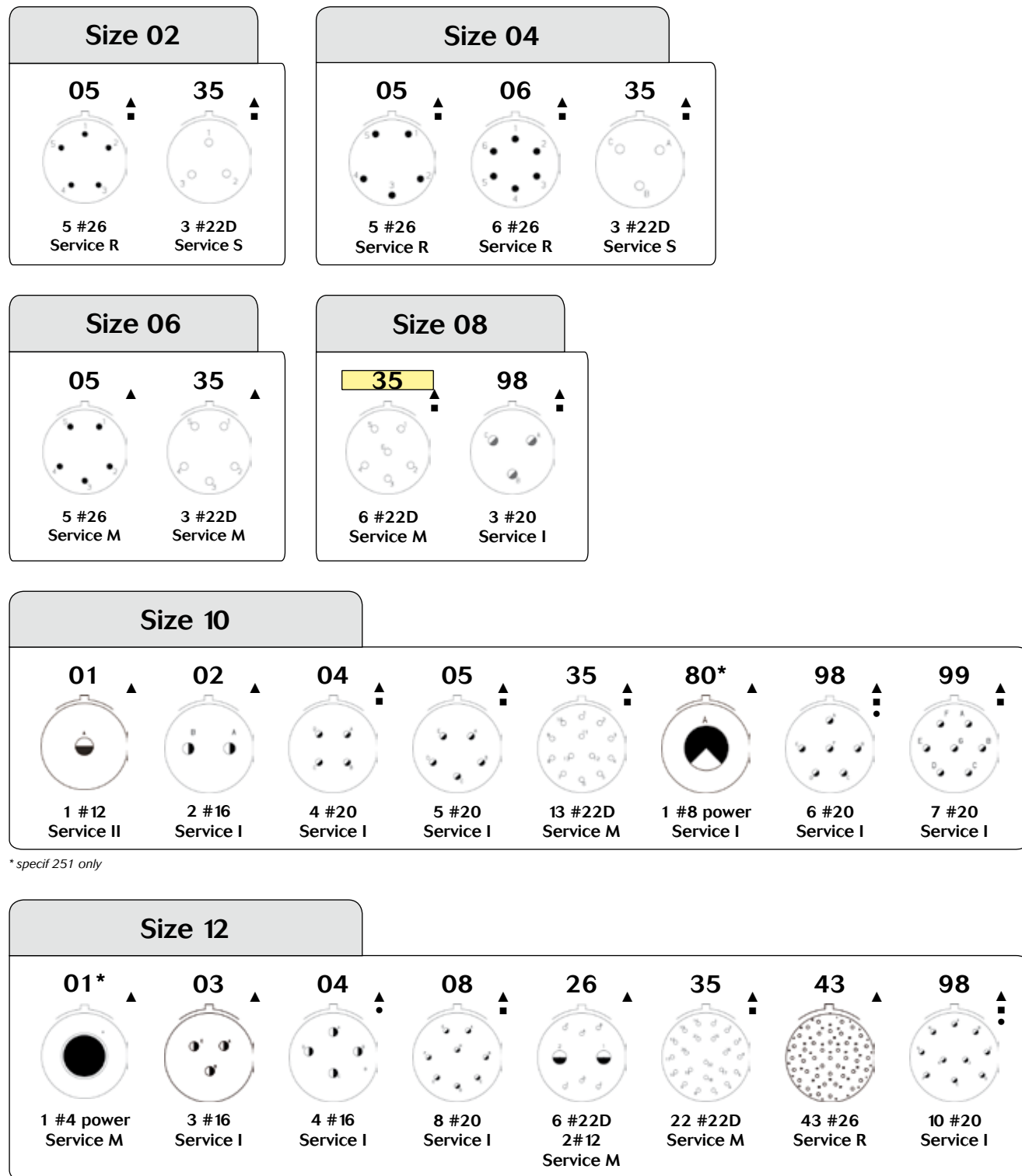


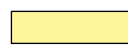
**8TA Connector** - page 59 to 62

# 8STA



## Contact layouts



 For both 8STA & 8TA, all others being for 8STA only.

# 8STA



## Size 14

|                     |                              |                     |                     |                      |                             |
|---------------------|------------------------------|---------------------|---------------------|----------------------|-----------------------------|
| <b>05</b> ▲         | <b>15</b> ▲                  | <b>18</b> ▲         | <b>19</b> ▲         | <b>35</b> ▲          | <b>97</b> ▲                 |
|                     |                              |                     |                     |                      |                             |
| 5 #16<br>Service II | 14 #20<br>1 #16<br>Service I | 18 #20<br>Service I | 19 #20<br>Service I | 37 #22D<br>Service M | 8 #20<br>4 #16<br>Service I |

## Size 16

|                                    |                    |                     |                     |                      |                         |                              |
|------------------------------------|--------------------|---------------------|---------------------|----------------------|-------------------------|------------------------------|
| <b>02*</b> ▲                       | <b>06</b> ▲        | <b>08</b> ▲         | <b>26</b> ▲         | <b>35</b> ▲          | <b>75*</b> ▲            | <b>99</b> ▲                  |
|                                    |                    |                     |                     |                      |                         |                              |
| 1 #8 power<br>38 #22D<br>Service N | 6 #12<br>Service I | 8 #16<br>Service II | 26 #20<br>Service I | 55 #22D<br>Service M | 2 #8 power<br>Service M | 2 #16<br>21 #20<br>Service I |

\* specif 251 only

## Size 18

|                      |                                    |                              |                     |                      |
|----------------------|------------------------------------|------------------------------|---------------------|----------------------|
| <b>11</b> ▲          | <b>18*</b> ▲                       | <b>28</b> ▲                  | <b>32</b> ▲         | <b>35</b> ▲          |
|                      |                                    |                              |                     |                      |
| 11 #16<br>Service II | 14 #22D<br>4 #8 power<br>Service M | 26 #20<br>2 #16<br>Service I | 32 #20<br>Service I | 66 #22D<br>Service M |

\* specif 251 only

## Size 20

|                     |                      |                      |                              |                     |                         |                         |                                    |
|---------------------|----------------------|----------------------|------------------------------|---------------------|-------------------------|-------------------------|------------------------------------|
| <b>11</b> ▲         | <b>16</b> ▲          | <b>35</b> ▲          | <b>39</b> ▲                  | <b>41</b> ▲         | <b>75*</b> ▲            | <b>48</b> ▲             | <b>78*</b> ▲                       |
|                     |                      |                      |                              |                     |                         |                         |                                    |
| 11 #12<br>Service I | 16 #16<br>Service II | 79 #22D<br>Service M | 37 #20<br>2 #16<br>Service I | 41 #20<br>Service I | 4 #8 power<br>Service M | 4 #8 power<br>Service I | 17 #22D<br>2 #8 power<br>Service M |

\* specif 251

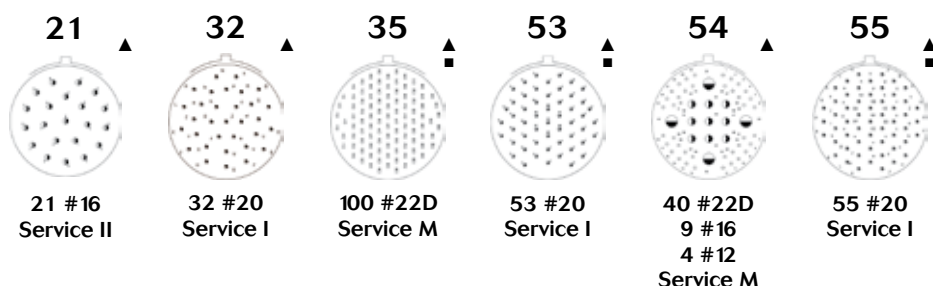
- ▲ Crimp contact layouts
- PC tail contact layouts
- Solder cup contact layouts

Shell sizes 22 & 24, please see next page.

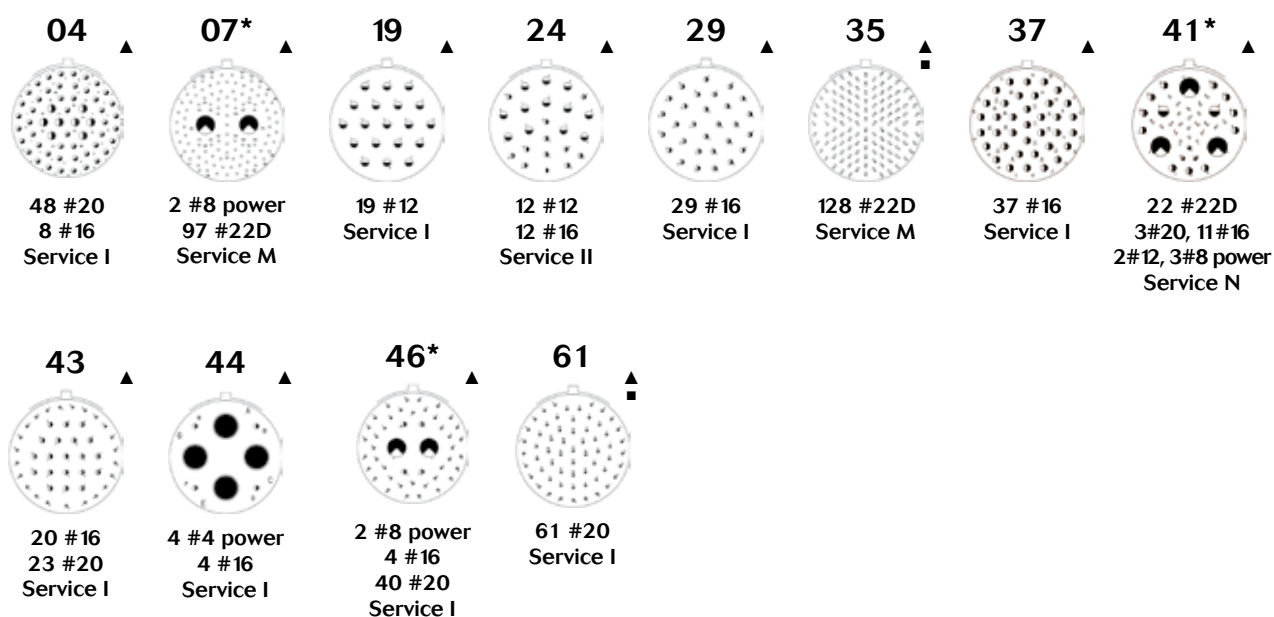
# 8STA



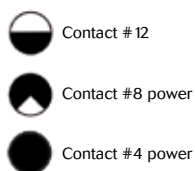
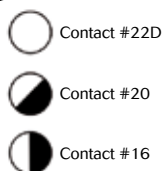
## Size 22



## Size 24



\* specif 251 only



- ▲ Crimp contact layouts
- PC tail contact layouts
- Solder cup contact layouts

| Service | Sea level | at 21 000 m |
|---------|-----------|-------------|
| R       | 400       | N/A         |
| S       | 1000      | N/A         |
| M       | 1300      | 800         |
| N       | 1000      | 600         |
| I       | 1800      | 1000        |
| II      | 2300      | 1000        |





# 8STA shell size 02



## Features & Benefits

- 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 colour-coded keyway orientations
- Boot termination feature
- PCB option available
- Conductive black zinc plating

## Technical characteristics

### Mechanical

|                     |                                      |
|---------------------|--------------------------------------|
| • Shell             | Aluminium alloy                      |
| • Shell plating     | Conductive black zinc (standard)     |
| • Insulator         | Thermoplastic                        |
| • Grommet & seal    | Liquid silicone rubber               |
| • Contact           | Copper alloy                         |
| • Contact plating   | Gold                                 |
| • Endurance         | 500 matings/unmatings                |
| • Shock             | 300 g for 3 ms and EIA-364-27        |
| • Vibration         | 147 m/s <sup>2</sup> , 10 to 2000 Hz |
| • Contact retention | 35 N (size 26)<br>45 N (size 22D)    |

### Electrical

|                         |                                                                       |
|-------------------------|-----------------------------------------------------------------------|
| • Test voltage          | 400 Vrms (size 26)<br>1000 Vrms (size 22D)                            |
| • Contact resistance    | < 16 mΩ (size 26)<br>< 14.6 mΩ (size 22D)                             |
| • Insulation resistance | > 5000 mΩ (at 400 Vdc / size 26)<br>> 5000 mΩ (at 500 Vdc / size 22D) |
| • Contact rating        | 3 A (size 26)<br>5 A (size 22D)                                       |

### Climatic

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

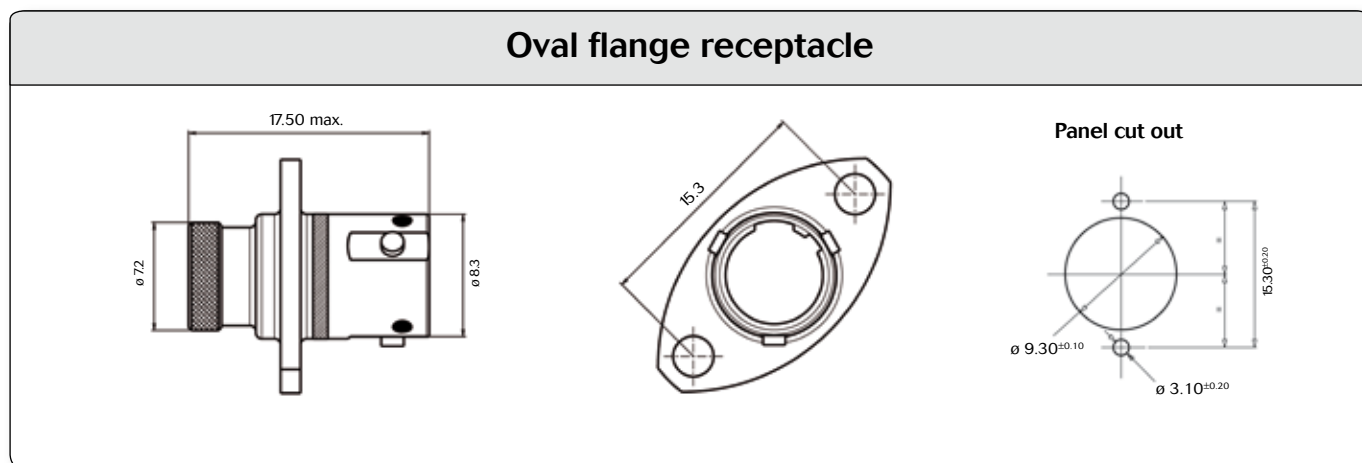
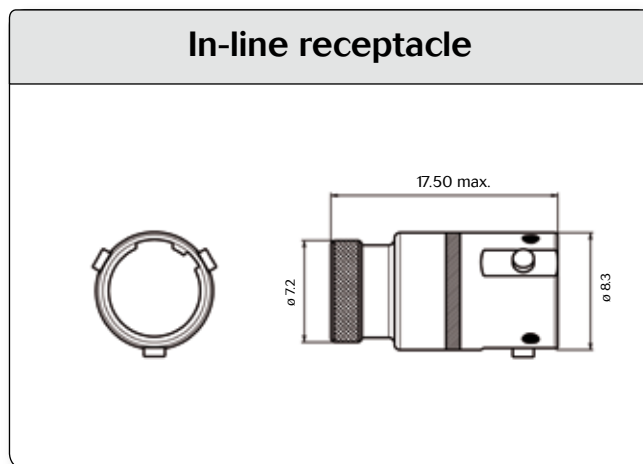
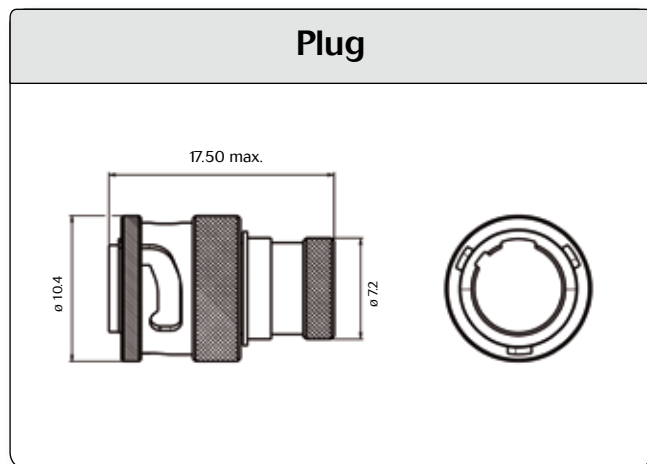
# 8STA shell size 02



## How to order

|                  |                                                                                                                                                                                                                                                                        |   |   |    |    |   |   |   |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|----|----|---|---|---|
| Basic series     | 8STA                                                                                                                                                                                                                                                                   | 0 | - | 02 | 05 | P | N | - |
| Shell style      | 0: Oval flange receptacle<br>1: In-line receptacle<br>2: Oval flange receptacle with PCB contacts<br>6: Plug                                                                                                                                                           |   |   |    |    |   |   |   |
| Plating          | - : Standard version<br>F: Nickel version                                                                                                                                                                                                                              |   |   |    |    |   |   |   |
| Shell size       | 02                                                                                                                                                                                                                                                                     |   |   |    |    |   |   |   |
| Contact layouts  | See page 6-8                                                                                                                                                                                                                                                           |   |   |    |    |   |   |   |
| Type of contacts | P: Pin contacts<br>S: Socket contacts                                                                                                                                                                                                                                  |   |   |    |    |   |   |   |
| Orientations     | N: Red / A: Yellow / B: Blue / C: Orange / D: Green / E: Grey / U: Universal                                                                                                                                                                                           |   |   |    |    |   |   |   |
| Specification    | - : Standard version<br>499: Integrated nut on the flange - M2 insert (only for shell style 0 & 2) - for more details, please see page 45-48<br>528: Integrated nut on the flange - M2.5 insert (only for shell style 0 & 2) - for more details, please see page 45-48 |   |   |    |    |   |   |   |

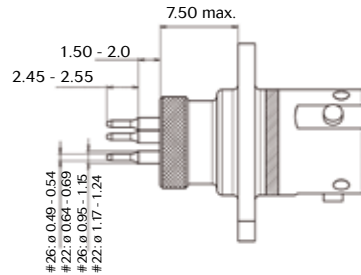
## Range presentation



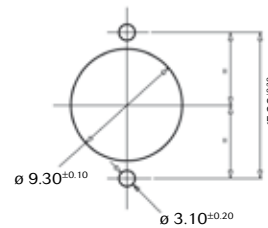


# 8STA shell size 02

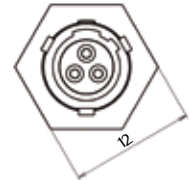
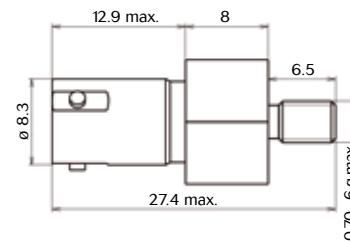
## Oval flange receptacle with PCB contacts



Panel cut out

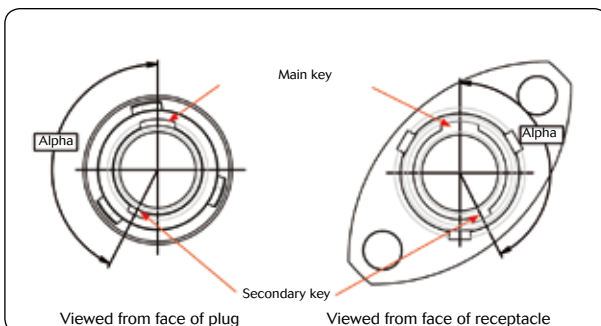


## Grounded receptacle



Please consult us for more information

## Orientation



| Key positions | Alpha | Colour band |
|---------------|-------|-------------|
| N             | 153°  | RED         |
| A             | 51°   | YELLOW      |
| B             | 102°  | BLUE        |
| C             | 204°  | ORANGE      |
| D             | 255°  | GREEN       |
| E             | 306°  | GREY        |

Main key remains fixed. 8STA 02-05 & 8STA 02-35 have the same orientations. Keyways width dimensions are different to avoid wrong mating in blind conditions.

# 8STA shell size 02



## Contacts

### Crimped & PCB contacts

| Contact size  | Contact type | Contact Ø | Part numbers  | Admissible wire section |      |       |      | External dia. over insulation (mm) |      |
|---------------|--------------|-----------|---------------|-------------------------|------|-------|------|------------------------------------|------|
|               |              |           |               | AWG                     |      | mm²   |      |                                    |      |
| Crimp contact |              |           |               | Min.                    | Max. | Min.  | Max. | Min.                               | Max. |
| 22D           | Male         | 0.76      | 8599-0702 JJ  | 28                      | 22   | 0.095 | 0.38 | 0.71                               | 1.37 |
|               | Female       |           | 8599-0710 900 |                         |      |       |      |                                    |      |
| 26            | Male         | 0.50      | 8599 1001-JL  | 30                      | 24   | 0.095 | 0.24 | 0.60                               | 0.83 |
|               | Female       |           | 8599 1002-900 |                         |      |       |      |                                    |      |

| PCB contact |        |      | Part numbers  |
|-------------|--------|------|---------------|
| 22D         | Male   | 0.76 | 8599 1031-JJ  |
|             | Female |      | 8599 1032-900 |
| 26          | Male   | 0.50 | 8599 1004-JL  |
|             | Female |      | 8599 1005-900 |

### Crimping tools

| Contact size | Wire sizes | Type   | Locator part number | Tool part number |
|--------------|------------|--------|---------------------|------------------|
| 22D          | 22 to 28   | Male   | 8476 09             | M22520/2-01      |
|              |            | Female | 8476 06             |                  |
| 26           | 24 to 30   | Male   | 640 088             |                  |
|              |            | Female | 640 089             |                  |

## Accessories

### Insertion & extraction tools



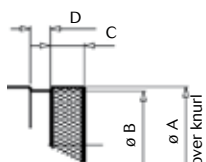
M81969/14-01



8599-1006

| Contact size | Part numbers           | Colour          |            |
|--------------|------------------------|-----------------|------------|
|              |                        | Insertion       | Extraction |
| 22D          | M81969/14-01 (plastic) | Green           | White      |
| 26           | 8599-1006 (metallic)   | Extraction only |            |

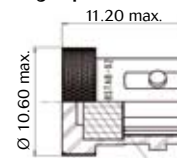
### Shrinkable termination detail



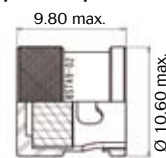
| ø A | B $\pm 0.05$ | C $\pm 0.05$ | D $\pm 0.05$ |
|-----|--------------|--------------|--------------|
| 7.2 | 6.55         | 2.2          | 2.30         |

### Metal protective cap

Plug cap: 8STA802



Receptacle cap: 8STA902







# 8STA shell size 04



## Features & Benefits

- Rugged aluminium body to ensure long service life in the harshest environment
- Optimum space & weight saving whilst achieving maximum strength
- Option of either #22 or #26 gold plated crimp contact or PCB contact available
- Environmental sealing from interfacial seal and rear grommet
- Positive locking mechanism with locked colour indicators
- 6 colour- coded keyway orientations
- Boot termination feature
- Conductive black zinc plating

## Technical characteristics

### Mechanical

- |                     |                                      |
|---------------------|--------------------------------------|
| • Shell             | Aluminium alloy                      |
| • Shell plating     | Conductive black zinc (standard)     |
| • Insulator         | Thermoplastic                        |
| • Grommet & seal    | Liquid silicone rubber               |
| • Contact           | Copper alloy                         |
| • Contact plating   | Gold                                 |
| • Endurance         | 500 matings/unmatings                |
| • Shock             | 300 g for 3 ms and EIA-364-27        |
| • Vibration         | 147 m/s <sup>2</sup> , 10 to 2000 Hz |
| • Contact retention | 35 N (size 26)                       |
|                     | 45 N (size 22D)                      |

### Electrical

- |                         |                                   |
|-------------------------|-----------------------------------|
| • Test voltage          | 400 Vrms (size 26)                |
|                         | 1000 Vrms (size 22D)              |
| • Contact resistance    | < 16 mΩ (size 26)                 |
|                         | < 14.6 mΩ (size 22D)              |
| • Insulation resistance | > 5000 mΩ (at 400 Vdc / size 26)  |
|                         | > 5000 mΩ (at 500 Vdc / size 22D) |
| • Contact rating        | 3 A (size 26)                     |
|                         | 5 A (size 22D)                    |

### Climatic

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

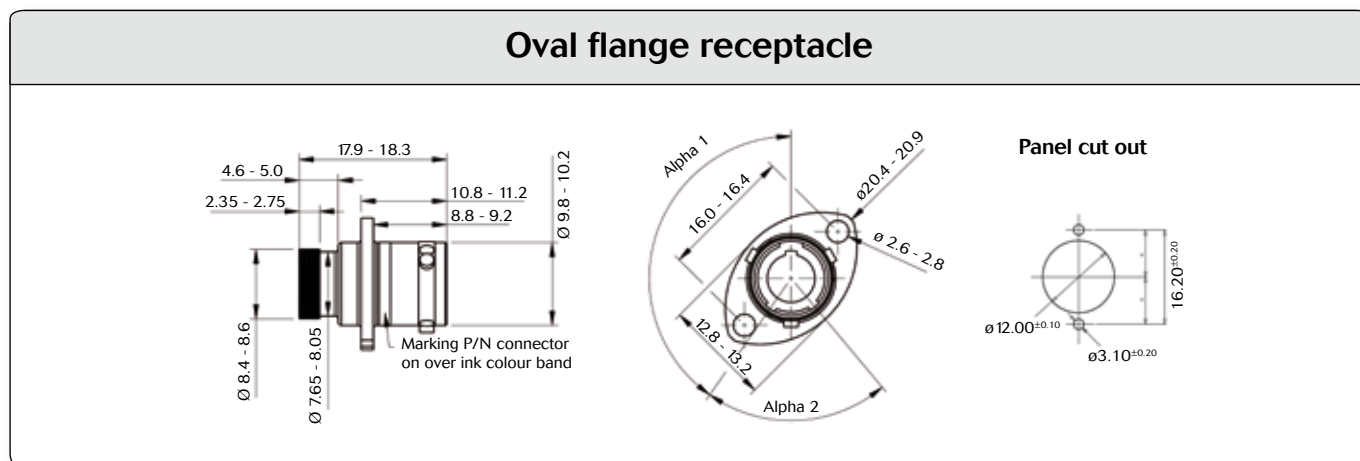
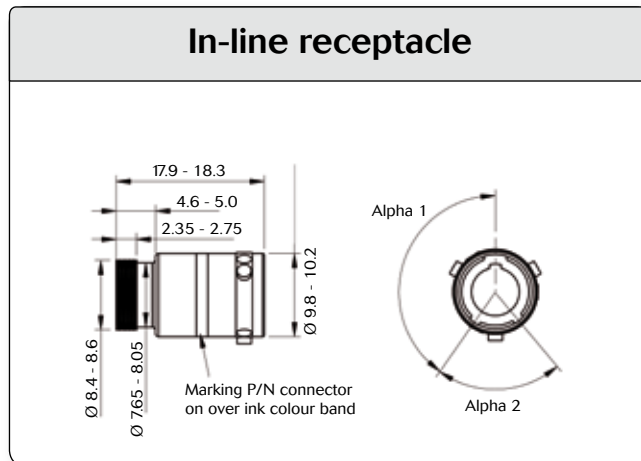
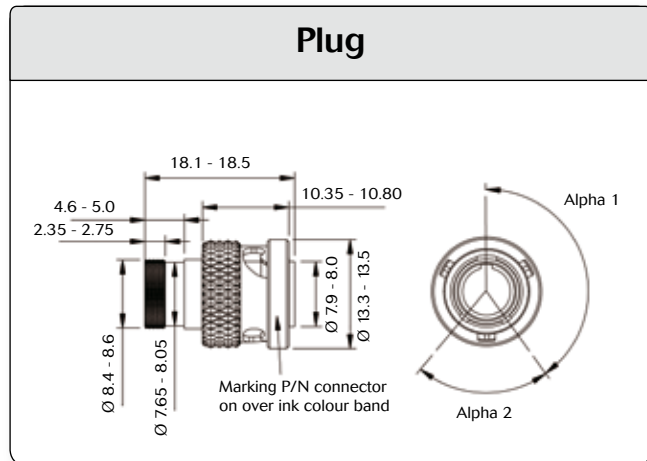
# 8STA shell size 04



## How to order

|                  |                                                                                                                                                                                                                                                                                                                                                  |   |   |    |    |   |   |   |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|----|----|---|---|---|
| Basic series     | 8STA                                                                                                                                                                                                                                                                                                                                             | 0 | - | 04 | 05 | P | N | - |
| Shell style      | 0: Oval flange receptacle<br>1: In-line receptacle<br>2: Oval flange receptacle with PCB contacts<br>6: Plug<br>7: Jam nut receptacle                                                                                                                                                                                                            |   |   |    |    |   |   |   |
| Plating          | - : Standard version<br>F: Nickel version                                                                                                                                                                                                                                                                                                        |   |   |    |    |   |   |   |
| Shell size       | 04                                                                                                                                                                                                                                                                                                                                               |   |   |    |    |   |   |   |
| Contact layouts  | see page 6-8                                                                                                                                                                                                                                                                                                                                     |   |   |    |    |   |   |   |
| Type of contacts | P: Pin contacts<br>S: Socket contacts                                                                                                                                                                                                                                                                                                            |   |   |    |    |   |   |   |
| Orientations     | N: Red / A: Yellow / B: Blue / C: Orange / D: Green / U: Universal                                                                                                                                                                                                                                                                               |   |   |    |    |   |   |   |
| Specification    | - : Standard version<br>499: Integrated nut on the flange - M2 insert (only for shell style 0 & 2) - for more details, please see page 45-48<br>528: Integrated nut on the flange - M2.5 insert (only for shell style 0 & 2) - for more details, please see page 45-48<br>022: Fuel immersible version - for more details, please see page 53-56 |   |   |    |    |   |   |   |

## Range presentation



### Oval flange receptacle with PCB contacts




**Panel cut out**



| Layouts | Contacts        | ø A         | ø B         |
|---------|-----------------|-------------|-------------|
| 04-35   | 3 contacts #22D | 0.64 / 0.69 | 1.19 / 1.24 |
| 04-05   | 5 contacts #26  | 0.49 / 0.54 | 1.1 / 1.15  |
| 04-06   | 6 contacts #26  | 0.49 / 0.54 | 1.1 / 1.15  |

For contact P/N, please consult us

### Jam nut receptacle

Panel thickness: 1.5 to 5.0

Panel cut out

| Orientation   |         |         |             |
|---------------|---------|---------|-------------|
| Key positions | Alpha 1 | Alpha 2 | Colour band |
| N             | 145°    | 75°     | RED         |
| A             | 130°    | 120°    | YELLOW      |
| B             | 110°    | 120°    | BLUE        |
| C             | 155°    | 115°    | ORANGE      |
| D             | 90°     | 115°    | GREEN       |
| U             | NONE    | NONE    | NONE        |

# 8STA shell size 04



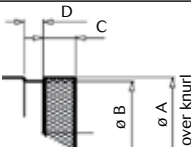
## Contacts

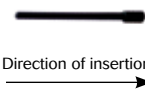
| Crimped contacts  |              |           |               |                         |      |       |      |                                    |      |
|-------------------|--------------|-----------|---------------|-------------------------|------|-------|------|------------------------------------|------|
| Contact size      | Contact type | Contact Ø | Part numbers  | Admissible wire section |      |       |      | External dia. over insulation (mm) |      |
|                   |              |           |               | AWG                     |      | mm²   |      |                                    |      |
| Crimp contact     |              |           |               | Min.                    | Max. | Min.  | Max. | Min.                               | Max. |
| 22D               | Male         | 0.76      | 8599-0702 JJ  | 28                      | 22   | 0.095 | 0.38 | 0.71                               | 1.37 |
|                   | Female       |           | 8599-0710 900 |                         |      |       |      |                                    |      |
| 26 - layout 04-05 | Male         | 0.50      | 8599-0777 LY  | 30                      | 24   | 0.095 | 0.24 | 0.60                               | 0.83 |
|                   | Female       |           | 8599-0778 900 |                         |      |       |      |                                    |      |
| 26 - layout 04-06 | Male         |           | 8599-1001 JL  |                         |      |       |      |                                    |      |
|                   | Female       |           | 8599-1002 900 |                         |      |       |      |                                    |      |

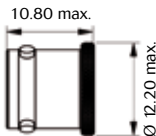
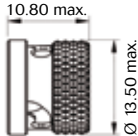
| Crimping tools    |            |        |                     |           |                  |         |
|-------------------|------------|--------|---------------------|-----------|------------------|---------|
| Contact size      | Wire sizes | Type   | Locator part number |           | Tool part number |         |
|                   |            |        | Spec.               | SOURIAU   | Spec.            | SOURIAU |
| 22D               | 22 to 28   | Male   | M22520/2-09         | 8476-09   | M22520/2-01      | 8476-01 |
|                   |            | Female | M22520/2-06         | 8476-06   |                  |         |
| 26 - layout 04-05 | 24 to 30   | Male   | -                   | 8599-0050 |                  |         |
|                   |            | Female | -                   | 8599-0051 |                  |         |
| 26 - layout 04-06 |            | Male   | -                   | 640 088   |                  |         |
|                   |            | Female | -                   | 640 089   |                  |         |

## Accessories

| Insertion & extraction tools                                                                                                                                                                            |                   |                        |           |            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|------------------------|-----------|------------|
| <br>M81969/14-01<br><br>8599-1006 | Contact size      | Part numbers           | Colour    |            |
|                                                                                                                                                                                                         |                   |                        | Insertion | Extraction |
|                                                                                                                                                                                                         | 22D               | M81969/14-01 (plastic) | Green     | White      |
|                                                                                                                                                                                                         | 26 - layout 04-05 |                        |           |            |
|                                                                                                                                                                                                         | 26 - layout 04-06 | 8599-1006 (metallic)   | -         |            |

| Shrinkable termination detail                                                       |      |              |              |              |
|-------------------------------------------------------------------------------------|------|--------------|--------------|--------------|
|  | ø A  | B $\pm 0.05$ | C $\pm 0.05$ | D $\pm 0.05$ |
|                                                                                     | 8.65 | 8.00         | 2.70         | 2.30         |
|                                                                                     |      |              |              |              |

| Filler plug                                                                                                   |              |            |          |
|---------------------------------------------------------------------------------------------------------------|--------------|------------|----------|
| <br>Direction of insertion | Contact size |            | Colour   |
|                                                                                                               | Spec.        | SOURIAU    |          |
|                                                                                                               | 22D          | MS27488-22 | 8660-212 |
| not available for contact #26                                                                                 |              |            |          |

| Metal protective cap                                                                                             |                                                                                                                         |
|------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| <b>Plug cap: 8STA804</b><br> | <b>Receptacle cap: 8STA904</b><br> |



# 8STA shell size 06-05



## Features & Benefits

|                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><li>• Rugged aluminium body to ensure long service life in the harshest environment</li><li>• Small compact connector with boot termination feature</li><li>• Environmental sealing from interfacial seal and rear grommet</li><li>• Positive locking mechanism with locked colour indicators</li></ul> | <ul style="list-style-type: none"><li>• 6 colour-coded keyway orientations</li><li>• Conductive black zinc plating</li><li>• Available with 5 contacts #26 (crimp or PCB)</li></ul> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Technical characteristics

|                     |                                      |                            |                                    |
|---------------------|--------------------------------------|----------------------------|------------------------------------|
| <b>Mechanical</b>   |                                      | <b>Electrical</b>          |                                    |
| • Shell             | Aluminium alloy                      | • Test voltage             | 1300 Vrms                          |
| • Shell plating     | Conductive black zinc                | • Contact resistance       | < 16 mΩ                            |
| • Insulator         | Thermoplastic                        | • Insulation resistance    | > 5000 mΩ (at 500 Vdc)             |
| • Grommet & seal    | Liquid silicone rubber               | • Contact rating           | 3 A                                |
| • Contact           | Copper alloy                         | <b>Climatic</b>            |                                    |
| • Contact plating   | Gold                                 | • Temperature range        | -55°C to +175°C                    |
| • Endurance         | 500 matings/unmatings                | • Sealing mated connectors | IP67 (1 metre for 30 min. minimum) |
| • Shock             | 300 g for 3 ms and EIA-364-27        | • Salt spray               | 48 hours                           |
| • Vibration         | 147 m/s <sup>2</sup> , 10 to 2000 Hz |                            |                                    |
| • Contact retention | 45 N                                 |                            |                                    |



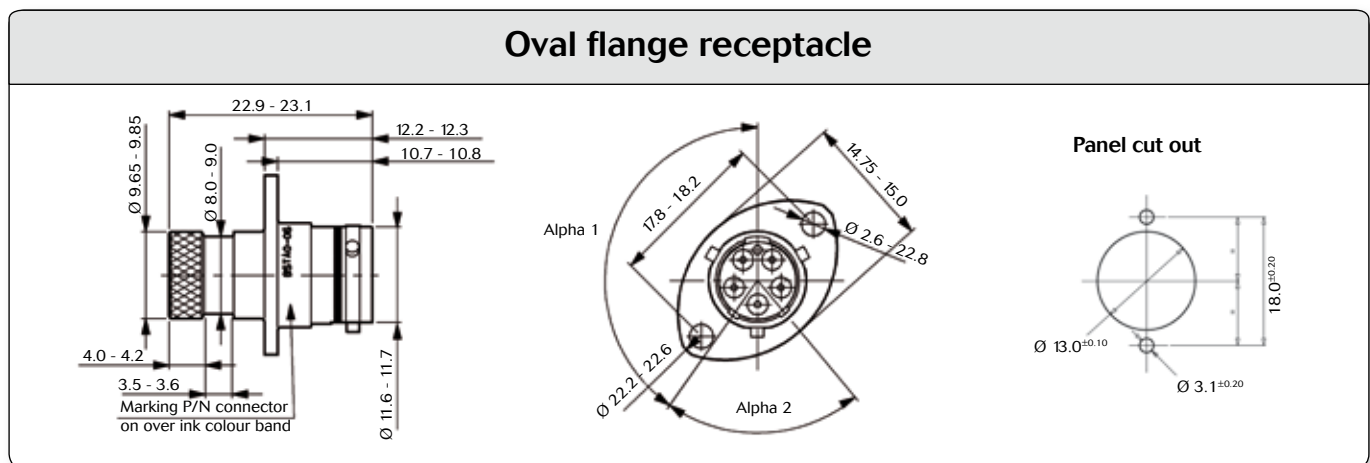
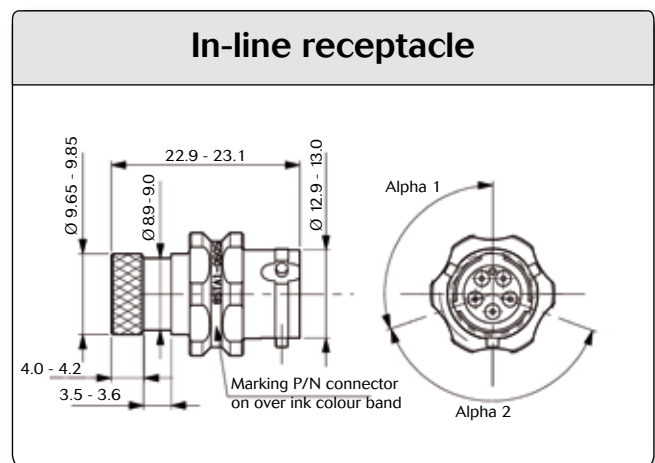
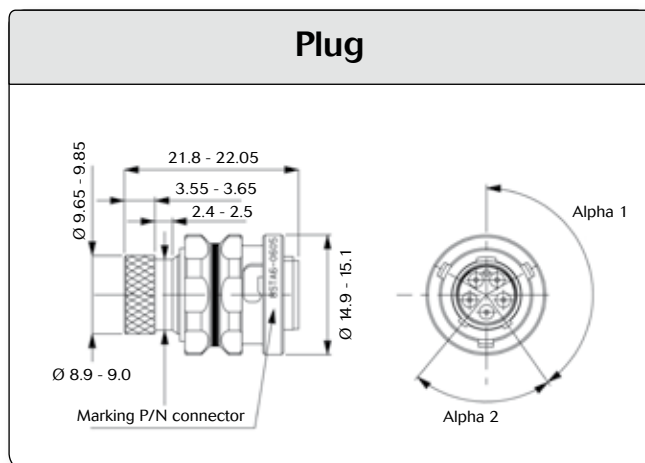
# 8STA shell size 06-05



## How to order

|                  |                                                                                                                                                |   |    |    |   |   |   |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------|---|----|----|---|---|---|
| Basic series     | 8STA                                                                                                                                           | 0 | 06 | 05 | P | N | - |
| Shell style      | 0: Oval flange receptacle (for front or rear mounting)<br>1: In-line receptacle<br>2: Oval flange receptacle with PCB contacts<br>6: Plug      |   |    |    |   |   |   |
| Shell size       | 06                                                                                                                                             |   |    |    |   |   |   |
| Contact layouts  | 05 (5 contacts #26)                                                                                                                            |   |    |    |   |   |   |
| Type of contacts | P: Pin contacts<br>S: Socket contacts                                                                                                          |   |    |    |   |   |   |
| Orientations     | N: Red / A: Yellow / B: Blue / C: Orange / D: Green / U: Universal                                                                             |   |    |    |   |   |   |
| Specification    | - : Standard version<br>528: Integrated nut on the flange - M2.5 insert (only for shell style 0 & 2) - for more details, please see page 45-48 |   |    |    |   |   |   |

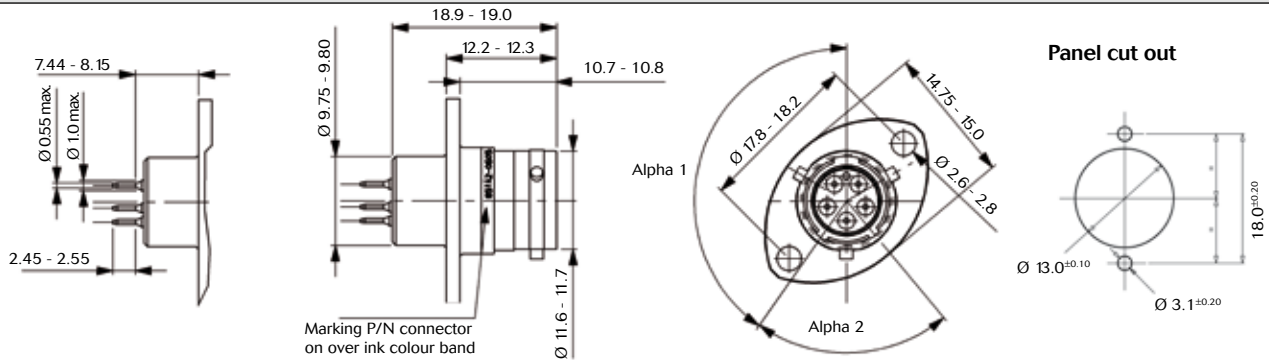
## Range presentation



# 8STA shell size 06-05



## Oval flange receptacle with PCB contacts



## Orientation

| Key positions | Alpha 1 | Alpha 2 | Colour band |
|---------------|---------|---------|-------------|
| N             | 145°    | 75°     | RED         |
| A             | 130°    | 120°    | YELLOW      |
| B             | 110°    | 120°    | BLUE        |
| C             | 155°    | 115°    | ORANGE      |
| D             | 90°     | 115°    | GREEN       |
| U             | NONE    | NONE    | NONE        |

# 8STA shell size 06-05



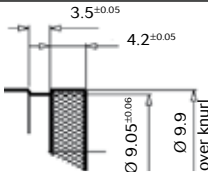
## Contacts

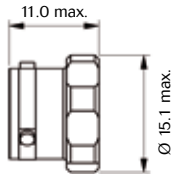
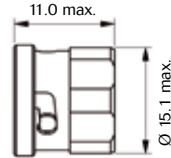
| Crimped & PCB contacts |              |           |                 |                         |    |       |      |                                    |      |
|------------------------|--------------|-----------|-----------------|-------------------------|----|-------|------|------------------------------------|------|
| Contact size           | Contact type | Contact Ø | Part numbers    | Admissible wire section |    |       |      | External dia. over insulation (mm) |      |
|                        |              |           |                 | AWG                     |    | mm²   |      |                                    |      |
|                        |              |           |                 | Crimp contact           |    |       | Min. | Max.                               | Min. |
| 26                     | Male         | 0.50      | 8599-7922 LY    | 30                      | 24 | 0.095 | 0.24 | 0.60                               | 0.83 |
|                        | Female       |           | 8599-7923 900   |                         |    |       |      |                                    |      |
| PCB contact            |              |           | Part numbers    |                         |    |       |      |                                    |      |
| 26                     | Male         | 0.50      | F1P1P3C-0001ALY |                         |    |       |      |                                    |      |
|                        | Female       |           | F1P1ES3-2601A00 |                         |    |       |      |                                    |      |

| Crimping tools |            |        |                     |                   |         |
|----------------|------------|--------|---------------------|-------------------|---------|
| Contact size   | Wire sizes | Type   | Locator part number | Plier part number |         |
|                |            |        | SOURIAU             | Spec.             | SOURIAU |
| 26             | 24 to 30   | Male   | 8599-0048           | M22520/2-01       | 8476-01 |
|                |            | Female | 8599-0049           |                   |         |

## Accessories

| Insertion & extraction tool                                                         |              |              |         |                |
|-------------------------------------------------------------------------------------|--------------|--------------|---------|----------------|
|  | Contact size | Part numbers |         | Colour         |
|                                                                                     |              | Spec.        | SOURIAU |                |
|                                                                                     | 26           | M81969/14-01 | -       | Green<br>White |

| Shrinkable termination detail                                                       |
|-------------------------------------------------------------------------------------|
|  |

| Metal protective cap             |                                                                                       |
|----------------------------------|---------------------------------------------------------------------------------------|
| <b>Plug cap</b><br>8STA806       |  |
| <b>Receptacle cap</b><br>8STA906 |  |

# 8STA shell size 06-35



## Features & Benefits

- Rugged aluminium body to ensure long service life in the harshest environment
- 5 rugged gold plated MIL spec contact #22D
- PCB contacts option available
- The composite version will provide you the lightest and most reliable solution for applications with high salt spray level. The aluminium type is excellent for harshest environment or where additional mechanical strength is required.
- Environmental sealing from interfacial seal and rear grommet
- Positive locking mechanism with locked colour indicators
- 6 colour-coded keyway orientations
- Boot termination feature

## Technical characteristics

### Mechanical

- Shell
- Shell plating
- Insulator
- Grommet & seal
- Contact
- Contact plating
- Endurance
- Shock

- Vibration
- Contact retention

### Electrical

- Test voltage
- Contact resistance
- Insulation resistance at 500 Vdc
- Contact rating

### Climatic

- Temperature range
- Sealing mated connectors
- Salt spray

### Composite version

Glass fibre loaded plastic  
No plating  
Thermoplastic  
Liquid silicone rubber  
Copper alloy  
Gold  
500 matings/unmatings  
300 g for 3 ms and  
EIA-364-27  
147 m/s<sup>2</sup>, 10 to 2000 Hz  
45 N

1300 Vrms  
< 14.6 mΩ  
≥ 5000 mΩ  
5 A

-55°C to +175°C  
IP67 (1 metre for 30 min. minimum)  
500 hours

### Aluminium version

Aluminium alloy  
Nickel or Conductive black zinc  
Thermoplastic  
Liquid silicone rubber  
Copper alloy  
Gold  
500 matings/unmatings  
300 g for 3 ms and  
EIA-364-27  
147 m/s<sup>2</sup>, 10 to 2000 Hz  
45 N

1300 Vrms  
< 14.6 mΩ  
≥ 5000 mΩ  
5 A

-55°C to +175°C  
IP67 (1 metre for 30 min. minimum)  
48 hours

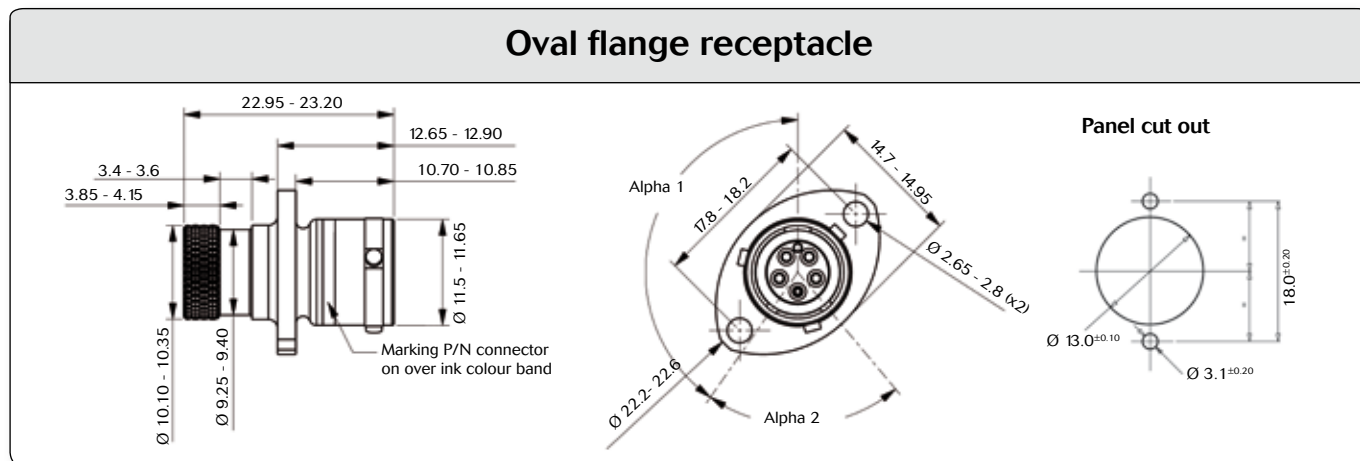
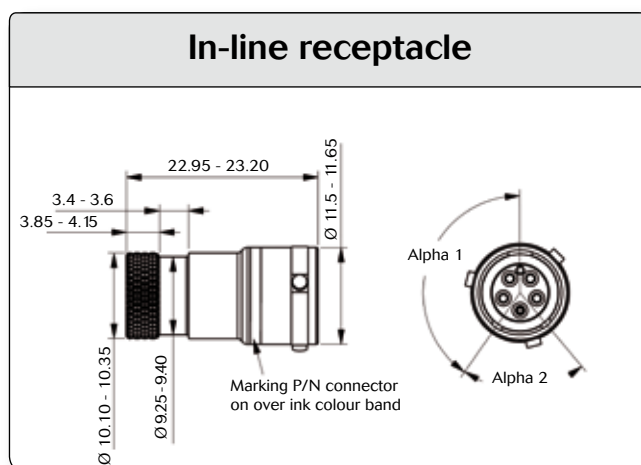
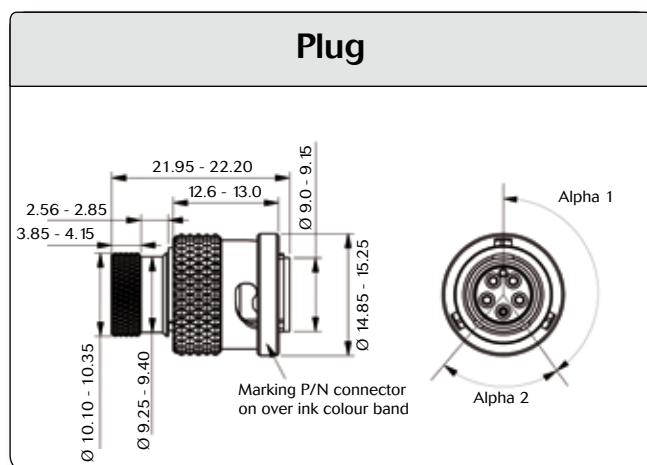
# 8STA shell size 06-35



## How to order

|                  |                                                                                                                                                  |   |   |    |    |   |   |   |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|---|---|----|----|---|---|---|
| Basic series     | 8STA                                                                                                                                             | 0 | X | 06 | 35 | P | N | - |
| Shell style      | 0: Oval flange receptacle (for front or rear mounting)<br>1: In-line receptacle<br>2: Oval flange receptacle with PCB contacts<br>6: Plug        |   |   |    |    |   |   |   |
| Plating          | - : Standard version<br>X: Composite version<br>F: Nickel version                                                                                |   |   |    |    |   |   |   |
| Shell size       | 06                                                                                                                                               |   |   |    |    |   |   |   |
| Contact layouts  | 35 (5 contacts #22D)                                                                                                                             |   |   |    |    |   |   |   |
| Type of contacts | P: Pin contacts<br>S: Socket contacts                                                                                                            |   |   |    |    |   |   |   |
| Orientations     | N: Red / A: Yellow / B: Blue / C: Orange / D: Green / U: Universal (only in aluminium alloy)                                                     |   |   |    |    |   |   |   |
| Specification    | - : Standard version<br>528: Integrated nut on the flange - M2.5 insert f (only for shell style 0 & 2) - for more details, please see page 45-48 |   |   |    |    |   |   |   |

## Range presentation



### Oval flange receptacle with PCB contacts

Technical drawings of an oval flange receptacle with PCB contacts, showing dimensions in millimeters.

**Side View Dimensions:**

- Overall length: 13.02 - 14.70
- Pin diameter:  $\varnothing 0.64 - 0.69$
- Pin spacing:  $\varnothing 1.19 - 1.24$
- Pin length: 3.9 - 4.1

**Front View Dimensions:**

- Overall width: 22.95 - 23.20
- Pin diameter:  $\varnothing 10.10 - 10.35$
- Pin spacing:  $\varnothing 9.25 - 9.40$
- Pin length: 3.4 - 3.6
- Pin diameter: 3.85 - 4.15
- Mounting hole diameter:  $\varnothing 11.5 - 11.65$
- Mounting hole spacing: 12.65 - 12.90
- Mounting hole diameter: 10.70 - 10.85

**Panel Cut Out View:**

- Overall width: 18.0  $\pm 0.20$
- Mounting hole diameter:  $\varnothing 13.0 \pm 0.10$
- Mounting hole spacing:  $\varnothing 3.1 \pm 0.20$
- Mounting hole diameter:  $\varnothing 2.65 - 2.8 (x2)$
- Mounting hole spacing: 14.7 - 14.95
- Mounting hole diameter:  $\varnothing 17.8 - 18.2$
- Mounting hole diameter:  $\varnothing 22.2 - 22.6$
- Mounting hole spacing: Alpha 1
- Mounting hole spacing: Alpha 2

Marking P/N connector on over ink colour band

## Orientation

| Key positions | Alpha 1 | Alpha 2 | Colour band |
|---------------|---------|---------|-------------|
| N             | 145°    | 75°     | RED         |
| A             | 130°    | 120°    | YELLOW      |
| B             | 110°    | 120°    | BLUE        |
| C             | 155°    | 115°    | ORANGE      |
| D             | 90°     | 115°    | GREEN       |
| U             | NONE    | NONE    | NONE        |

23



# 8STA shell size 06-35



## Contacts

### Crimped & PCB contacts

| Contact size  | Contact type | Contact Ø | Part numbers  | Admissible wire section |      |       |      | External dia. over insulation (mm) |      |
|---------------|--------------|-----------|---------------|-------------------------|------|-------|------|------------------------------------|------|
|               |              |           |               | AWG                     |      | mm²   |      |                                    |      |
| Crimp contact |              |           |               | Min.                    | Max. | Min.  | Max. | Min.                               | Max. |
| 22D           | Male         | 0.76      | 8599-0702 JJ  | 28                      | 22   | 0.095 | 0.38 | 0.71                               | 1.37 |
|               | Female       |           | 8599-0710 900 |                         |      |       |      |                                    |      |

| PCB contact |        |      | Part numbers    |
|-------------|--------|------|-----------------|
| 22D         | Male   | 0.76 | F1P1P3E-0002AJJ |
|             | Female |      | F1P1ES3-2202A00 |

### Crimping tools

| Contact size | Wire sizes | Type   | Locator part number |         | Plier part number |         |
|--------------|------------|--------|---------------------|---------|-------------------|---------|
|              |            |        | Spec.               | SOURIAU | Spec.             | SOURIAU |
| 22D          | 22 to 28   | Male   | M22520/2-09         | 8476-09 | M22520/2-01       | 8476-01 |
|              |            | Female | M22520/2-06         | 8476-06 |                   |         |

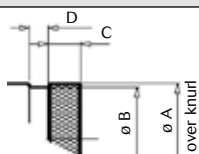
## Accessories

### Insertion & extraction tool



| Contact size | Part numbers |         | Colour    |            |
|--------------|--------------|---------|-----------|------------|
|              | Spec.        | SOURIAU | Insertion | Extraction |
| 22D          | M81969/14-01 | -       | Green     | White      |

### Shrinkable termination detail



| ø A  | B <sup>±0.05</sup> | C <sup>±0.05</sup> | D <sup>±0.05</sup> |
|------|--------------------|--------------------|--------------------|
| 9.90 | 9.25 - 9.40        | 4.20               | 3.50               |

### Filler plug

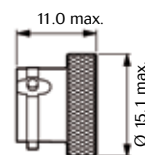


Direction of insertion

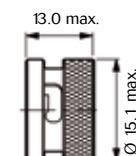
| Contact size | Part numbers |          | Colour |
|--------------|--------------|----------|--------|
|              | Spec.        | SOURIAU  |        |
| 22D          | MS27488-22   | 8660-212 | Black  |

### Metal protective cap

Plug cap  
8STA8F06



Receptacle cap  
8STA9F06



# 8STA shell sizes 08 to 24



## Features & Benefits

- Derived from MIL-DTL-38999 (Eurofighter JN 1003 connector), 8STA connector utilises the extensive SOURIAU range of 38999 medium, high density, power, coaxial and triaxial contact layouts
- Rugged aluminium body to ensure long service life in the harshest environment
- The 8STA range covers connectors from shell sizes 08 to 24 in 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 colour-coded keyway orientations
  - Boot termination feature

## Technical characteristics

### 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                |
| • Shock             | 300 g for 3 ms and EIA-364-27        |
| • Vibration         | 147 m/s <sup>2</sup> , 10 to 2000 Hz |
| • Contact retention | Size 22D 45 N                        |
|                     | Size 20 60 N                         |
|                     | Size 16 100 N                        |
|                     | Size 12 100 N                        |
|                     | Size 8 110 N                         |
|                     | Size 4 200 N                         |

### Climatic

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

### Electrical

- Test voltage

| Service   | M    | N    | I    | II   |
|-----------|------|------|------|------|
| Sea level | 1300 | 1000 | 1800 | 2300 |

- 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 shell sizes 08 to 24

## How to order

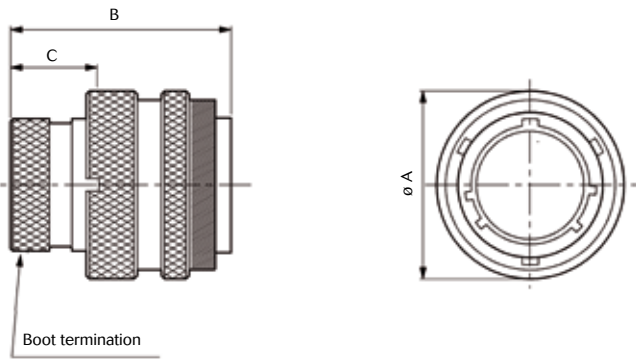
### Connector

|                  |                                                                                                                                                                                                                                                                               |   |    |    |   |   |   |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|----|----|---|---|---|
| Basic series     | 8STA                                                                                                                                                                                                                                                                          | 0 | 10 | 35 | P | N | - |
| Shell style      | 0: Oval flange receptacle<br>1: In-line receptacle<br>2: Oval flange receptacle with PCB contacts<br>6: Plug<br>7: Jam nut receptacle                                                                                                                                         |   |    |    |   |   |   |
| Shell size       | 08 - 10 - 12 - 14 - 16 - 18 - 20 - 22 - 24                                                                                                                                                                                                                                    |   |    |    |   |   |   |
| Contact layouts  | See page 6-8                                                                                                                                                                                                                                                                  |   |    |    |   |   |   |
| Type of contacts | P: Pin contacts<br>S: Socket contacts                                                                                                                                                                                                                                         |   |    |    |   |   |   |
| Orientations     | N: Red / A: Yellow / B: Blue / C: Orange / D: Green / U: Universal                                                                                                                                                                                                            |   |    |    |   |   |   |
| Specification    | - : Standard version<br>499: Integrated nut on the flange - M3 insert (only for shell style 0 & 2) - for more details, please see page 45-48<br>523: Lightweight In-line receptacle (shell style 1)<br>022: Fuel immersible version - for more details, please see page 53-56 |   |    |    |   |   |   |

### Protective cap

|              |                                                        |   |    |
|--------------|--------------------------------------------------------|---|----|
| Basic series | 8STA                                                   | 8 | 10 |
| Shell style  | 8: Plug protective cap<br>9: Receptacle protective cap |   |    |
| Shell size   | 08 - 10 - 12 - 14 - 16 - 18 - 20 - 22 - 24             |   |    |

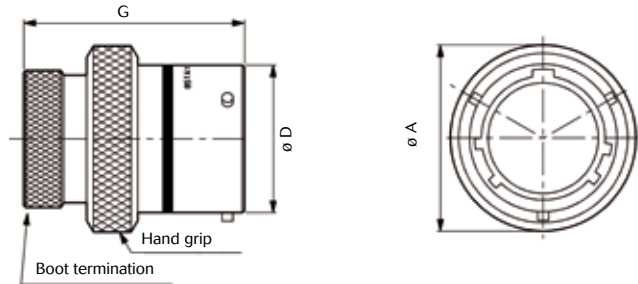
## Range presentation

| Plug                                                                                |            |          |        |
|-------------------------------------------------------------------------------------|------------|----------|--------|
|  | Shell size | ø A max. | B max. |
|                                                                                     | 08         | 18.70    | 33.50  |
|                                                                                     | 10         | 21.50    |        |
|                                                                                     | 12         | 25.10    |        |
|                                                                                     | 14         | 29.00    |        |
|                                                                                     | 16         | 32.20    |        |
|                                                                                     | 18         | 35.40    |        |
|                                                                                     | 20         | 38.20    |        |
|                                                                                     | 22         | 41.30    |        |
|                                                                                     | 24         | 44.50    |        |
|                                                                                     |            |          | C max. |
|                                                                                     |            |          | 15     |

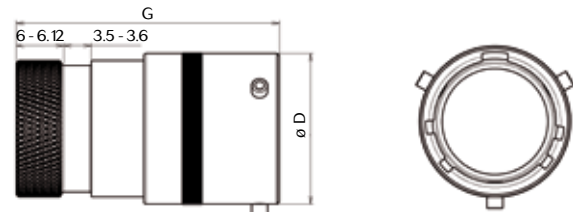
# 8STA shell sizes 08 to 24

## In-line receptacle

Standard version

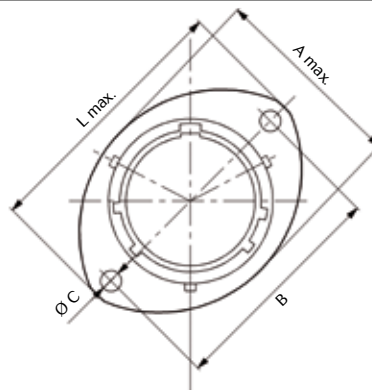
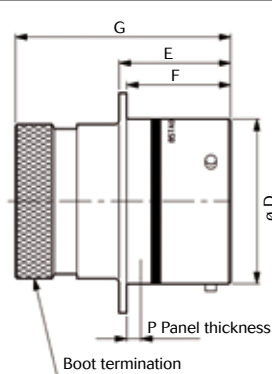


Lightweight version (specification 523)

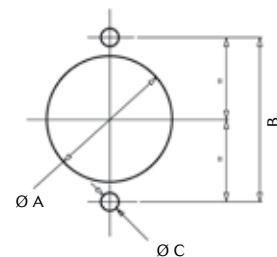


| Shell size | ø A max. | ø D $^{+0.20}_{-0.13}$ | G max. |
|------------|----------|------------------------|--------|
| 08         | 17.60    | 12.00                  | 33.50  |
| 10         | 20.70    | 15.00                  |        |
| 12         | 25.10    | 19.05                  |        |
| 14         | 28.30    | 22.22                  |        |
| 16         | 31.40    | 25.40                  |        |
| 18         | 34.70    | 28.57                  |        |
| 20         | 38.10    | 31.75                  |        |
| 22         | 41.20    | 34.92                  |        |
| 24         | 44.70    | 38.10                  |        |

## Oval flange receptacle



PANEL CUT OUT

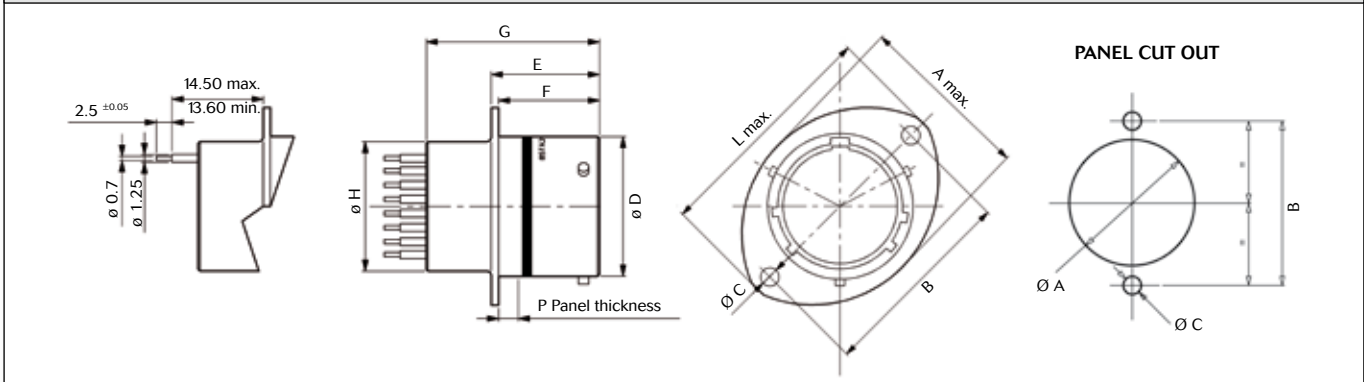


| Shell size | A max. | B $\pm 0.20$ | $\varnothing C_{-0.1}^{+0.0}$ | $\varnothing D_{-0.13}^{+0.2}$ | $E_{-0.15}^{+0.0}$ | $F_{-0.13}^{+0.0}$ | G max. | L max. | P max. | PANEL CUT OUT                   |              |                            |
|------------|--------|--------------|-------------------------------|--------------------------------|--------------------|--------------------|--------|--------|--------|---------------------------------|--------------|----------------------------|
|            |        |              |                               |                                |                    |                    |        |        |        | $\varnothing A_{-0.10}^{+0.10}$ | B $\pm 0.20$ | $\varnothing C_{\pm 0.20}$ |
| 08         | 16.50  | 21.40        | 3.20                          | 12.00                          | 17.21              | 16.05              | 33.50  | 27.20  | 3.00   | 14.50                           | 21.40        | 3.60                       |
| 10         | 19.50  | 25.90        |                               | 15.00                          |                    |                    |        | 32.00  |        | 17.40                           | 25.90        |                            |
| 12         | 24.00  | 29.10        |                               | 19.05                          |                    |                    |        | 35.20  |        | 21.90                           | 29.10        |                            |
| 14         | 27.00  | 32.50        |                               | 22.22                          |                    |                    |        | 38.40  |        | 25.00                           | 32.50        |                            |
| 16         | 30.30  | 34.80        |                               | 25.40                          |                    |                    |        | 41.00  |        | 28.20                           | 34.80        |                            |
| 18         | 33.70  | 38.20        |                               | 28.57                          |                    |                    |        | 44.70  |        | 31.40                           | 38.20        |                            |
| 20         | 37.00  | 41.60        |                               | 31.75                          |                    | 47.90              |        | 34.60  |        | 41.60                           |              |                            |
| 22         | 40.40  | 45.00        | 34.90                         | 51.00                          | 37.60              | 45.00              |        |        |        |                                 |              |                            |
| 24         | 43.40  | 49.50        | 3.77                          | 38.10                          | 18.20              | 55.80              |        | 41.00  | 49.50  | 4.10                            |              |                            |

Note : all dimensions are in mm

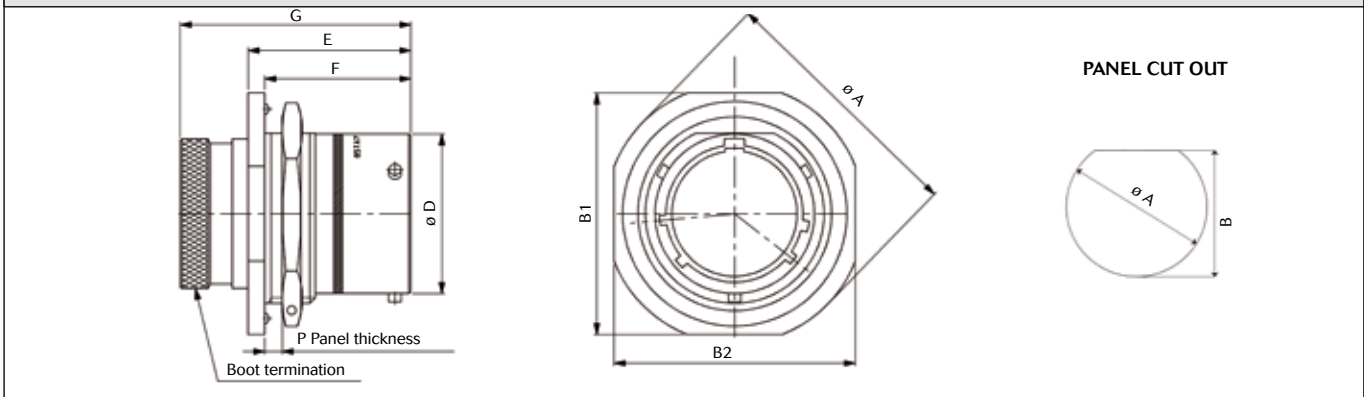
24

**Oval flange receptacle with PCB contacts**



| Shell size | A max. | B $\pm 0.20$ | $\varnothing$ C $\begin{smallmatrix} 0 \\ +0.1 \end{smallmatrix}$ | $\varnothing$ D $\begin{smallmatrix} +0.2 \\ -0.13 \end{smallmatrix}$ | E $\begin{smallmatrix} 0 \\ +0.15 \end{smallmatrix}$ | F $\begin{smallmatrix} 0 \\ \pm 0.13 \end{smallmatrix}$ | G max. | $\varnothing$ H max. | L max. | P max. | PANEL CUT OUT              |              |                            |
|------------|--------|--------------|-------------------------------------------------------------------|-----------------------------------------------------------------------|------------------------------------------------------|---------------------------------------------------------|--------|----------------------|--------|--------|----------------------------|--------------|----------------------------|
|            |        |              |                                                                   |                                                                       |                                                      |                                                         |        |                      |        |        | $\varnothing$ A $\pm 0.10$ | B $\pm 0.20$ | $\varnothing$ C $\pm 0.20$ |
| 08         | 16.50  | 21.40        | 3.20                                                              | 12.00                                                                 | 17.21                                                | 16.05                                                   | 27.65  | 11.10                | 27.20  | 3.00   | 14.50                      | 21.40        | 3.60                       |
| 10         | 19.50  | 25.90        |                                                                   | 13.90                                                                 |                                                      |                                                         |        | 32.00                | 17.40  |        | 25.90                      |              |                            |
| 12         | 24.00  | 29.10        |                                                                   | 17.35                                                                 |                                                      |                                                         |        | 35.20                | 21.90  |        | 29.10                      |              |                            |
| 14         | 26.90  | 32.50        |                                                                   | 20.50                                                                 |                                                      |                                                         |        | 38.40                | 25.00  |        | 32.50                      |              |                            |
| 16         | 30.30  | 34.80        |                                                                   | 23.70                                                                 |                                                      | 41.00                                                   |        | 28.20                | 34.80  |        |                            |              |                            |
| 18         | 33.70  | 38.20        |                                                                   | 26.91                                                                 |                                                      | 44.70                                                   |        | 31.40                | 38.20  |        |                            |              |                            |
| 20         | 37.00  | 41.60        |                                                                   | 30.11                                                                 |                                                      | 47.80                                                   |        | 34.60                | 41.60  |        |                            |              |                            |
| 22         | 40.40  | 45.00        |                                                                   | 33.20                                                                 |                                                      | 51.00                                                   |        | 37.60                | 45.00  |        |                            |              |                            |
| 24         | 43.40  | 49.50        | 3.77                                                              | 38.10                                                                 | 18.20                                                |                                                         |        | 36.40                | 55.80  |        | 41.00                      | 49.50        | 4.10                       |

Jam nut receptacle



| Shell size | ø A <sup>±0.03</sup> | B1-B2 <sup>±0.24</sup> | ø D <sub>0.12</sub> <sup>0</sup> | E <sup>±0.10</sup> | F <sup>±0.24</sup> | G <sup>±0.3</sup> | P max. | PANEL CUT OUT        |                    |
|------------|----------------------|------------------------|----------------------------------|--------------------|--------------------|-------------------|--------|----------------------|--------------------|
|            |                      |                        |                                  |                    |                    |                   |        | ø A <sup>±0.10</sup> | B <sup>±0.20</sup> |
| 08         | 26.90                | 24.10                  | 11.97                            | 25.91              | 23.24              | 36.71             | 3.00   | 14.50                | 13.60              |
| 10         | 30.15                | 27.30                  | 14.94                            |                    |                    |                   |        | 17.70                | 16.80              |
| 12         | 34.89                | 32.10                  | 19.01                            |                    |                    |                   |        | 22.70                | 20.90              |
| 14         | 38.06                | 34.92                  | 22.18                            |                    |                    |                   |        | 25.70                | 24.10              |
| 16         | 41.25                | 38.40                  | 25.36                            |                    |                    |                   |        | 28.80                | 27.20              |
| 18         | 44.41                | 41.60                  | 28.53                            | 26.71              |                    | 37.51             |        | 32.00                | 30.40              |
| 20         | 49.19                | 46.30                  | 31.71                            |                    |                    |                   |        | 35.10                | 33.60              |
| 22         | 52.33                | 49.50                  | 34.88                            |                    |                    |                   |        | 38.00                | 36.80              |
| 24         | 55.50                | 52.45                  | 38.06                            |                    |                    |                   |        | 42.00                | 39.90              |

Note : all dimensions are in mm



# 8STA shell sizes 08 to 24

## New versions

Lighweight In-line receptacle (specif. 523)

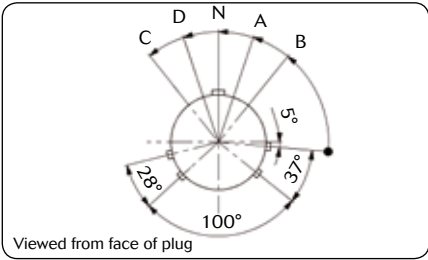
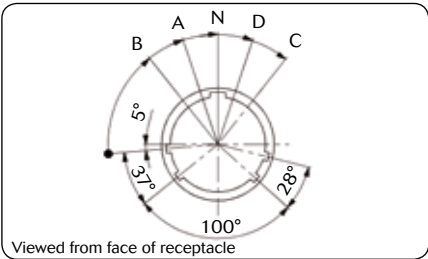


Version with integrated nut (specif 499)



See pages 45-48

## Orientation



| Shell size | Orientations |             |           |             |            |
|------------|--------------|-------------|-----------|-------------|------------|
|            | N<br>Red     | A<br>Yellow | B<br>Blue | C<br>Orange | D<br>Green |
| 08         | 95°          | 77°         | -         | -           | 113°       |
| 10         | 95°          | 81°         | 67°       | 123°        | 109°       |
| 12         | 95°          | 75°         | 63°       | 127°        | 116°       |
| 14         | 95°          | 74°         | 61°       | 129°        | 116°       |
| 16         | 95°          | 77°         | 65°       | 125°        | 113°       |
| 18         | 95°          | 77°         | 65°       | 125°        | 113°       |
| 20         | 95°          | 77°         | 65°       | 125°        | 113°       |
| 22         | 95°          | 80°         | 69°       | 121°        | 110°       |
| 24         | 95°          | 80°         | 69°       | 121°        | 110°       |

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



# 8STA shell sizes 08 to 24

## Contacts

### Crimped & PCB contacts

| Contact size        | Contact type | Contact Ø max. | Part numbers   | Admissible wire section                                                                      |    |                        |      | External dia. over insulation (mm) |      |
|---------------------|--------------|----------------|----------------|----------------------------------------------------------------------------------------------|----|------------------------|------|------------------------------------|------|
|                     |              |                |                | AWG                                                                                          |    | mm²                    |      |                                    |      |
|                     |              |                |                | Crimp contact                                                                                |    |                        | Min. | Max.                               | Min. |
| 22D signal contact  | Male         | 0.76           | 8599-0702 JJ   | 28                                                                                           | 22 | 0.09                   | 0.38 | 0.76                               | 1.37 |
|                     | Female       |                | 8599-0706 900  |                                                                                              |    |                        |      |                                    |      |
| 20 signal contact   | Male         | 1.00           | 8599-0703 SA   | 24                                                                                           | 20 | 0.21                   | 0.60 | 1.02                               | 2.11 |
|                     | Female       |                | 8599-0707 900  |                                                                                              |    |                        |      |                                    |      |
| 16 signal contact   | Male         | 1.60           | 8599-0704 MJ   | 20                                                                                           | 16 | 0.60                   | 1.34 | 1.65                               | 2.77 |
|                     | Female       |                | 8599-0708 900  |                                                                                              |    |                        |      |                                    |      |
| 16 coaxial contact  | Male         |                | M39029/76 424  | RG 174<br>RG 179<br>RG 316                                                                   |    |                        |      | 1.65                               | 2.60 |
|                     | Female       |                | M39029/77 428  |                                                                                              |    |                        |      |                                    |      |
| 12 signal contact   | Male         | 2.40           | 8599-0705 MJ   | 14                                                                                           | 12 | 1.91                   | 3.18 | 2.46                               | 3.61 |
|                     | Female       |                | 8599-0709 900  |                                                                                              |    |                        |      |                                    |      |
| 12 coaxial contact  | Male         |                | M39029/28 211  | RG 174<br>RG 179<br>RG 316                                                                   |    |                        |      | 2.40                               | 2.60 |
|                     | Female       |                | M39029/75 416  |                                                                                              |    |                        |      |                                    |      |
| 08 power contact    | Male         | 3.64           | 8599-7544      | -                                                                                            | 8  | -                      | 8.98 | 4.50                               | 6.50 |
|                     | Female       |                | 8599-7541      |                                                                                              |    |                        |      |                                    |      |
|                     | Boot         |                | 8599-4542      |                                                                                              |    |                        |      |                                    |      |
|                     | Reductor**   |                | 8599-7645      |                                                                                              |    |                        |      |                                    |      |
| 08 coaxial contact  | Male         |                | M39029/59 366  | RG 188A/U                                                                                    |    |                        |      | -                                  | 2.80 |
|                     | Female       |                | M39029/60 367  |                                                                                              |    |                        |      |                                    |      |
|                     | Boot         |                | 8590-4571      |                                                                                              |    |                        |      |                                    |      |
| 08 triaxial contact | Male         |                | M39029/90-529  | MIL-C 17/ 176 00002<br>FILECA F2703/ 14<br>RAYCHEM CHEMINAX 106 12<br>FILOTEX M 17/176 00002 |    |                        |      | 3.15                               | 3.40 |
|                     | Female       |                | M39029/91-530  |                                                                                              |    |                        |      |                                    |      |
|                     | Boot         |                | 8590-4571      |                                                                                              |    |                        |      |                                    |      |
| 04 power contact    | Male         | 5.75           | 8599-7520A 900 | 7                                                                                            | 10 | According to wire used |      |                                    |      |
|                     | Female       |                | 8599-7521A 900 |                                                                                              |    |                        |      |                                    |      |
|                     | Boot         |                | 8599-4590      |                                                                                              |    |                        |      |                                    |      |
|                     | Reductor*    |                | 8400-2351A     |                                                                                              |    |                        |      |                                    |      |
|                     | Male         |                | 8599-7520A 900 | 4                                                                                            | 16 |                        |      |                                    |      |
|                     | Female       |                | 8599-7521A 900 |                                                                                              |    |                        |      |                                    |      |
|                     | Boot         |                | 8599-4591      |                                                                                              |    |                        |      |                                    |      |

| PCB contact***     |        |      | Part numbers    |
|--------------------|--------|------|-----------------|
| 22D signal contact | Male   | 0.76 | F1P1P3E-0001ALY |
|                    | Female |      | F1P1ES3-2201A00 |
| 20 signal contact  | Male   | 1.03 | F1P1P3E0020ALY  |
|                    | Female |      | F1P1ES32001A00  |

\* Reductor must be used for wire 8 & 10 mm<sup>2</sup>

\*\* Reductor must be used for wire 8 mm<sup>2</sup>

\*\*\* For shell type 2

# 8STA shell sizes 08 to 24

## Crimping tools

| Contact size | Type   | Pliers             |         |                     |         |                     |                 |                     |              |              |
|--------------|--------|--------------------|---------|---------------------|---------|---------------------|-----------------|---------------------|--------------|--------------|
|              |        | M22520/1-01        |         | M22520/2-01         |         | M300BT              | M22520/23-01*   |                     |              |              |
|              |        | Turret Part number |         | Locator Part number |         | Locator Part number | Die Part number | Locator Part number |              |              |
|              |        | Spec.              | SOURIAU | Spec.               | SOURIAU | Spec.               | Spec.           | Spec.               |              |              |
| 22D          | Male   | -                  | -       | M22520/2-09         | 8476-09 | -                   | -               | -                   |              |              |
|              | Female |                    |         | M22520/2-07         | 8476-07 |                     |                 |                     |              |              |
| 20           | Male   | M22520/1-04        | 8365-04 | M22520/2-10         | 8476-10 |                     |                 |                     |              |              |
|              | Female |                    |         |                     |         |                     |                 |                     |              |              |
| 16           | Male   |                    |         | -                   | -       |                     |                 |                     |              |              |
|              | Female |                    |         |                     |         |                     |                 |                     |              |              |
| 12           | Male   |                    |         |                     |         |                     |                 |                     |              |              |
|              | Female |                    |         |                     |         |                     |                 |                     |              |              |
| 8            | Male   |                    |         |                     |         | -                   | -               | SP 593              | M22520/23-02 | 8599-9601    |
|              | Female |                    |         |                     |         |                     |                 |                     |              |              |
| 4            | Male   | -                  | -       |                     |         |                     |                 | -                   | M22520/23-04 | M22520/23-11 |
|              | Female |                    |         |                     |         |                     |                 |                     |              |              |

\* Pneumatic pliers

M22520/1-01+ M22520/1-04



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



M22520/23-01



## Wire stripping

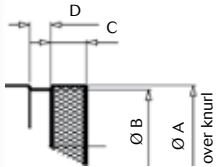


|        | Contact size |     |    |    |    |    |   |
|--------|--------------|-----|----|----|----|----|---|
|        | 26           | 22D | 20 | 16 | 12 | 8  | 4 |
| L (mm) | 4            |     | 6  |    |    | 12 |   |

# 8STA shell sizes 08 to 24

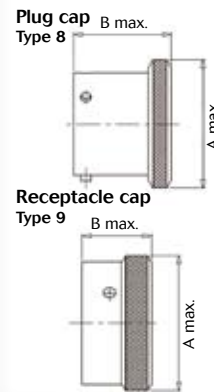
## Accessories

### Shrinkable termination detail



| Shell size | øA    | ø B <sup>±0.05</sup> | C <sup>±0.05</sup> | D   |
|------------|-------|----------------------|--------------------|-----|
| 08         | 10.62 | 9.70                 | 6                  | 3.5 |
| 10         | 13.72 | 12.65                |                    |     |
| 12         | 17.26 | 16.02                |                    |     |
| 14         | 20.41 | 19.00                |                    |     |
| 16         | 23.60 | 22.23                |                    |     |
| 18         | 26.76 | 25.22                |                    |     |
| 20         | 29.93 | 28.37                |                    |     |
| 22         | 33.11 | 31.86                |                    |     |
| 24         | 36.30 | 34.67                |                    |     |

### Metal protective caps



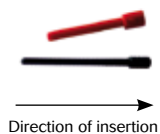
| Shell size | Plug cap |       | Receptacle cap |       |
|------------|----------|-------|----------------|-------|
|            | ø A      | B     | øA             | ø B   |
| 08         | 17.50    | 21.00 | 19.00          | 14.20 |
| 10         | 20.50    |       | 21.80          |       |
| 12         | 24.50    |       | 26.10          |       |
| 14         | 27.70    |       | 29.30          |       |
| 16         | 30.90    |       | 32.50          | 15.00 |
| 18         | 34.00    |       | 35.30          |       |
| 20         | 37.20    |       | 38.80          |       |
| 22         | 40.40    |       | 42.00          |       |
| 24         | 43.50    |       | 45.10          | 15.85 |

## Insertion & extraction tools



| Contact size | Material | Part numbers |           | Colour    |            |
|--------------|----------|--------------|-----------|-----------|------------|
|              |          | Spec.        | SOURIAU   | Insertion | Extraction |
| 22D          | Plastic  | M81969/14-01 | -         | Green     | White      |
| 20           | Plastic  | M81969/14-10 | -         | Red       | Orange     |
| 16           | Plastic  | M81969/14-03 | -         | Blue      | White      |
| 12           | Plastic  | M81969/14-04 | -         | Yellow    |            |
| 8            | Plastic  | M81969/14-06 | -         | -         | Red        |
|              | Metallic | -            | 8660-197  |           | -          |
| 4            | Plastic  | M81969/14-07 | -         | -         | Blue       |
|              | Metallic | -            | 8533-8175 |           | -          |

### Filler plug



| Contact size | Part numbers |           | Colour |
|--------------|--------------|-----------|--------|
|              | Spec.        | SOURIAU   |        |
| 22D          | MS27488-22   | 8660-212  | Black  |
| 20           | MS27488-20   | 8522-389A | Red    |
| 16           | MS27488-16   | 8522-390A | Blue   |
| 12           | MS27488-12   | 8522-391A | Yellow |



# 8STA High Density



## Features & Benefits

- |                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><li>• <b>A reliable &amp; robust solution</b><ul style="list-style-type: none"><li>- Same well proven shell design as standard 8STA</li><li>- Contact retention with metallic clip</li></ul></li></ul> | <ul style="list-style-type: none"><li>• <b>Significant space saving</b><ul style="list-style-type: none"><li>- Twice the number of contacts compared to size 12-35 with 22 contacts</li><li>- Two shell sizes smaller than a partially populated size 16-35 with 55 cavities</li></ul></li></ul> |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Technical characteristics

### 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       |
| • Vibration         | -15 to -20g, 100 to 3000 Hz |
| • Contact retention | 35 N                        |

### Electrical

- |                         |                        |
|-------------------------|------------------------|
| • Test voltage          | 500 Vrms               |
| • Contact resistance    | 16mΩ                   |
| • Insulation resistance | ≥ 5000 mΩ (at 500 Vdc) |
| • Contact rating        | 3 A                    |
| • Shell continuity      | ≤10 mΩ                 |

### Climatic

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



# 8STA High Density

## How to order

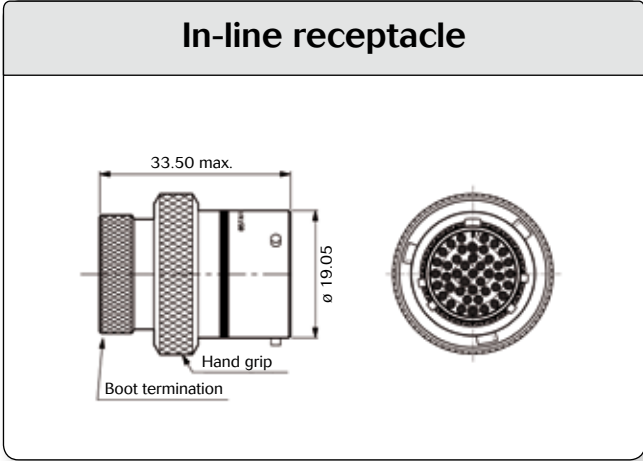
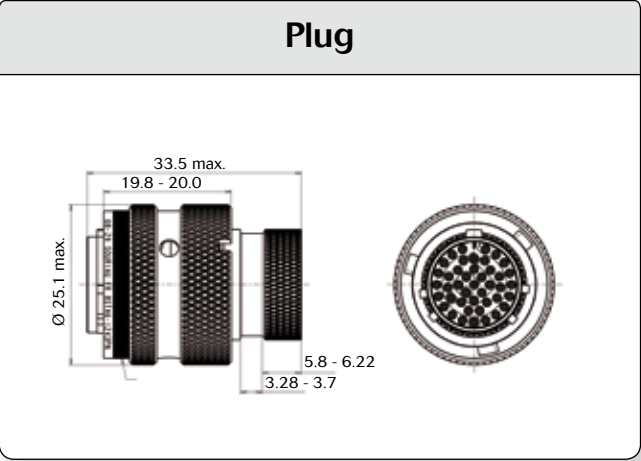
### Connector

|                  |                                                                                                                                                                                                    |   |    |    |   |   |   |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|----|----|---|---|---|
| Basic series     | 8STA                                                                                                                                                                                               | 0 | 12 | 43 | P | N | - |
| Shell style      | 0: Oval flange receptacle<br>1: In-line receptacle<br>2: Oval flange receptacle with PCB contacts<br>6: Plug<br>7: Jam nut receptacle                                                              |   |    |    |   |   |   |
| Shell size       | 12                                                                                                                                                                                                 |   |    |    |   |   |   |
| Contact layouts  | 43 (43 contacts #26)                                                                                                                                                                               |   |    |    |   |   |   |
| Type of contacts | P: Pin contacts<br>S: Socket contacts                                                                                                                                                              |   |    |    |   |   |   |
| Orientations     | N: Red / A: Yellow / B: Blue / C: Orange / D: Green / U: Universal                                                                                                                                 |   |    |    |   |   |   |
| Specification    | - : Standard version<br>499: Integrated nut on the flange - M3 insert (only for shell style 0 & 2)- for more details, please see page 45-48<br>523: Lightweight In-line receptacle (shell style 1) |   |    |    |   |   |   |

### Protective cap

|              |                                                        |   |    |
|--------------|--------------------------------------------------------|---|----|
| Basic series | 8STA                                                   | 8 | 12 |
| Shell style  | 8: Plug protective cap<br>9: Receptacle protective cap |   |    |
| Shell size   | 12                                                     |   |    |

## Range presentation

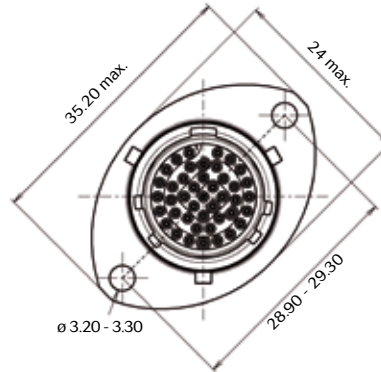
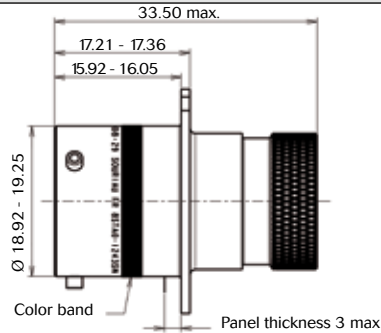


Note : all dimensions are in mm

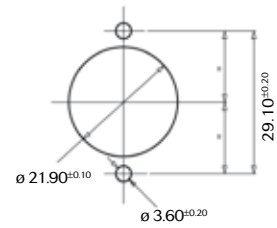
# 8STA High Density



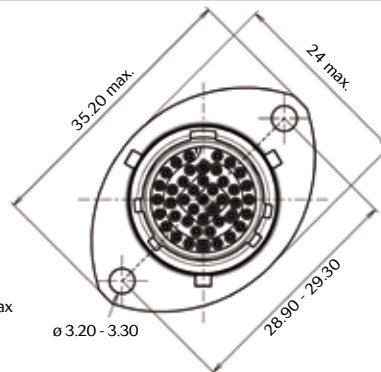
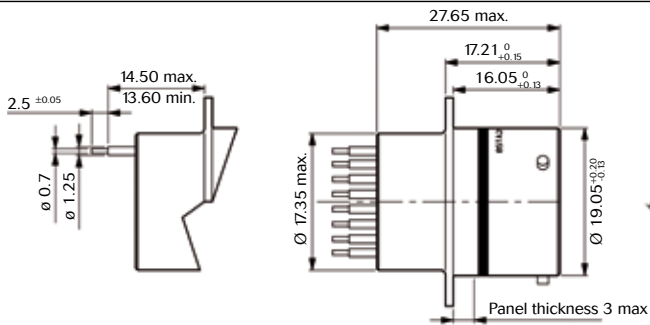
## Oval flange receptacle



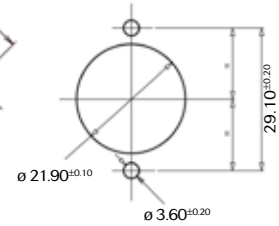
PANEL CUT OUT



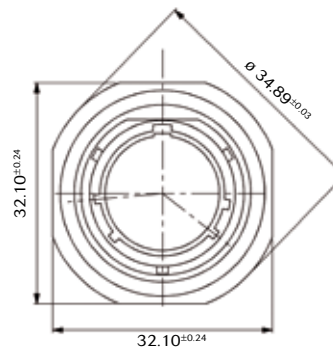
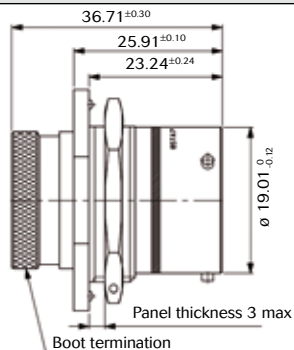
## Oval flange receptacle with PCB contacts



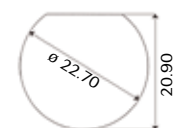
PANEL CUT OUT



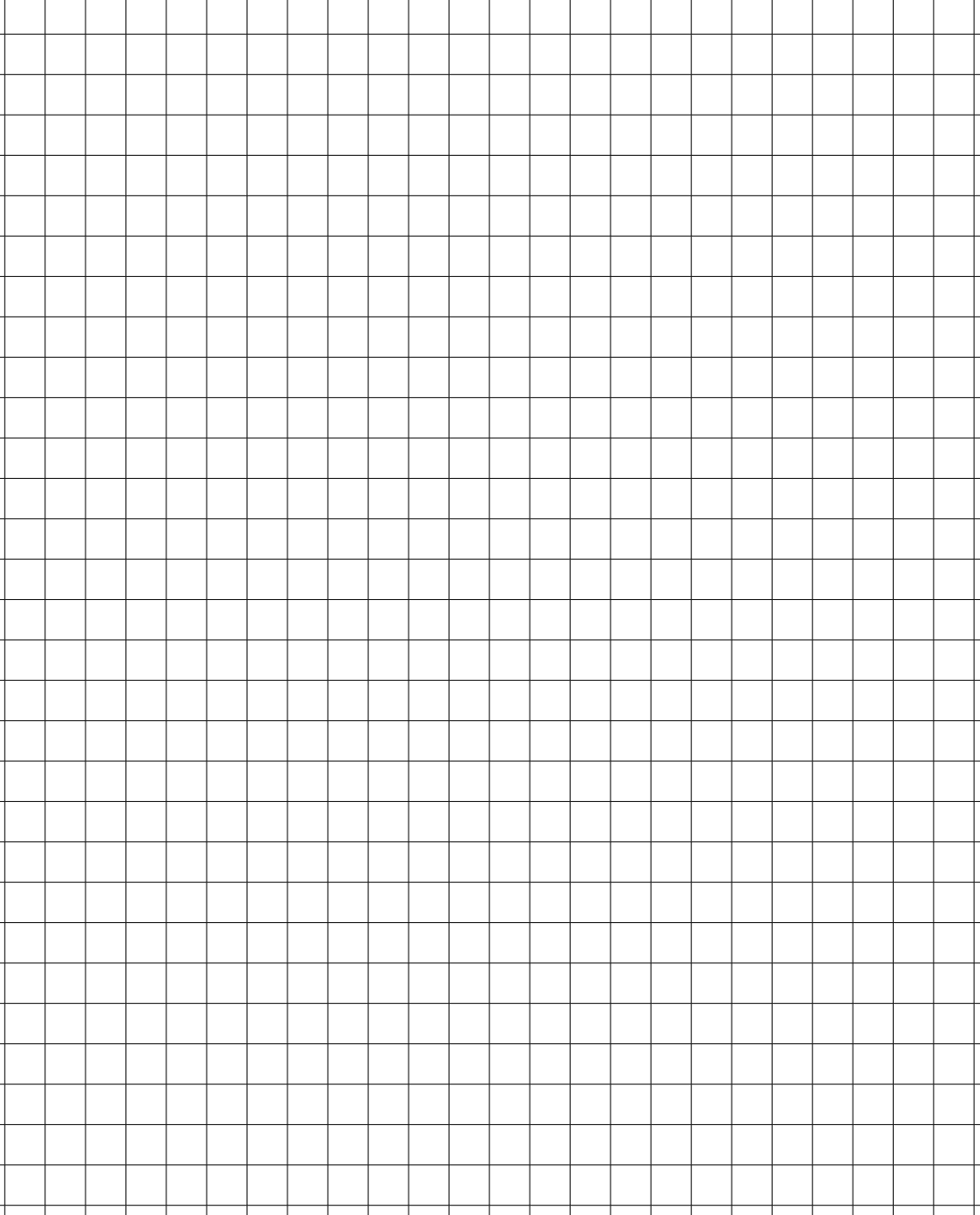
## Jam nut receptacle



PANEL CUT OUT



## Notes



A large grid of graph paper for calculations, consisting of 20 columns and 30 rows of squares.

[www.motorsport-connectors.com](http://www.motorsport-connectors.com)





# 8STA Power



## Features & Benefits

- **A wide power & mixed power/signal offer**
  - 6 power layouts with contacts gauge 4 and gauge 8
  - 6 mixed power/signal layouts
- **Space & cost saving with mixed connectors**
  - Only one connector instead of 2 to transmit signal & power

## Technical characteristics

### 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
- Shock 300 g for 3 ms and EIA-364-27
- Vibration 147 m/s<sup>2</sup>, 10 to 2000 Hz
- Contact retention
  - Size 22D 45 N
  - Size 20 60 N
  - Size 16 100 N
  - Size 12 100 N
  - Size 8 110 N
  - Size 4 200 N

### Climatic

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

### Electrical

- Test voltage

| Service   | M    | N    | I    | II   |
|-----------|------|------|------|------|
| Sea level | 1300 | 1000 | 1800 | 2300 |

- 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 Power

## How to order

### Connector

|                  |                                                                                                                                                         |   |    |    |   |   |   |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|---|----|----|---|---|---|
| Basic series     | 8STA                                                                                                                                                    | 0 | 10 | 35 | P | N | - |
| Shell style      | 0: Oval flange receptacle (for front or rear mounting)<br>1: In-line receptacle<br>6: Plug<br>7: Jam nut receptacle                                     |   |    |    |   |   |   |
| Shell size       | 10 - 12 - 16 - 18 - 20 - 24                                                                                                                             |   |    |    |   |   |   |
| Contact layouts  | See page 6-8                                                                                                                                            |   |    |    |   |   |   |
| Type of contacts | P: Pin contacts<br>S: Socket contacts                                                                                                                   |   |    |    |   |   |   |
| Orientations     | N: Red / A: Yellow / B: Blue / C: Orange / D: Green / U: Universal                                                                                      |   |    |    |   |   |   |
| Specification    | - : for contact layouts 20-48 & 24-44<br>251: for contact layouts 10-80, 16-02, 16-75, 18-18, 20-75, 20-78, 24-07, 24-41 & 24-46<br>261: only for 12-01 |   |    |    |   |   |   |

### Protective cap

|              |                                                        |   |    |
|--------------|--------------------------------------------------------|---|----|
| Basic series | 8STA                                                   | 8 | 10 |
| Shell style  | 8: Plug protective cap<br>9: Receptacle protective cap |   |    |
| Shell size   | 10 - 12 - 16 - 18 - 20 - 24                            |   |    |

## Range presentation

### Power connectors



8STA 10-80 spec. 251 - 1 contact #8 power



8STA 12-01 spec. 261 - 1 contact #4 power



8STA 16-75 spec. 251 - 2 contacts #8 power



8STA 20-48 - 4 contacts #8 power

# 8STA Power



## Mixed signal & power connectors



**8STA 16-02 specif.251** - 1 contact #8 power & 38 #22D



**8STA 24-07 specif. 251** - 2 contacts #8 power & 97 #22D



**8STA 24-44** - 4 contacts # 4 power & 4 #16

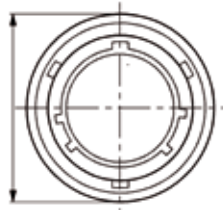
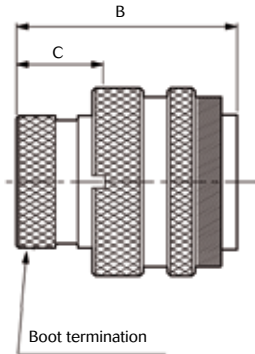


**8STA 24-46 specif.251** - 2 contacts #8 power, 4 #16 & 40 #20

# 8STA Power

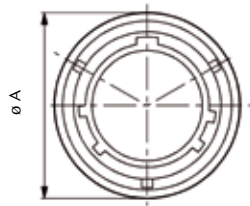
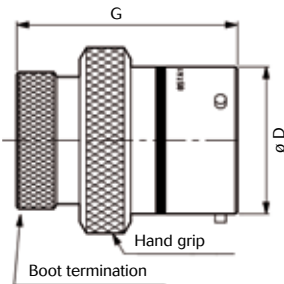


## Plug



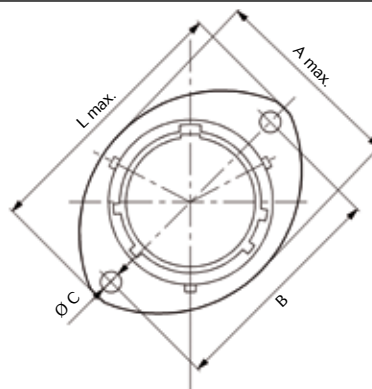
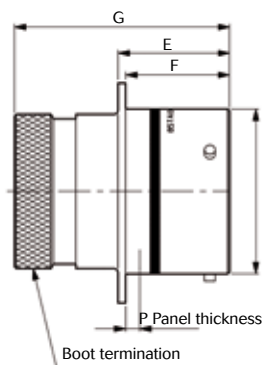
| Shell size | ø A max. | B max. | C max. |
|------------|----------|--------|--------|
| 10         | 21.50    | 33.50  | 15     |
| 12         | 25.10    |        |        |
| 16         | 32.20    |        |        |
| 18         | 35.40    |        |        |
| 20         | 38.20    |        |        |
| 24         | 44.50    |        |        |

## In-line receptacle

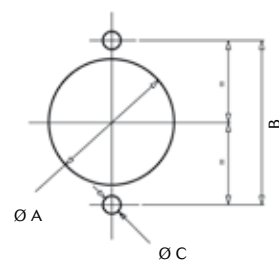


| Shell size | ø A max. | ø D <sup>+0.20</sup> <sub>-0.13</sub> | G max. |
|------------|----------|---------------------------------------|--------|
| 10         | 20.70    | 15.00                                 | 33.50  |
| 12         | 25.10    | 19.05                                 |        |
| 16         | 31.40    | 25.40                                 |        |
| 18         | 34.70    | 28.57                                 |        |
| 20         | 38.10    | 31.75                                 |        |
| 24         | 44.70    | 38.10                                 |        |

## Oval flange receptacle



### PANEL CUT OUT



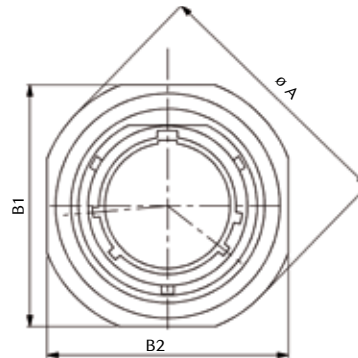
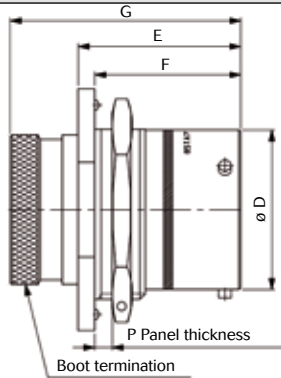
| Shell size | A max. | B <sup>±0.20</sup> | ø C <sub>±0.1</sub> | ø D <sup>+0.2</sup> <sub>-0.13</sub> | E <sub>±0.15</sub> | F <sub>-0.13</sub> | G max. | L max. | P max. | PANEL CUT OUT        |                    |                      |
|------------|--------|--------------------|---------------------|--------------------------------------|--------------------|--------------------|--------|--------|--------|----------------------|--------------------|----------------------|
|            |        |                    |                     |                                      |                    |                    |        |        |        | ø A <sub>±0.10</sub> | B <sup>±0.20</sup> | ø C <sub>±0.20</sub> |
| 10         | 19.50  | 25.90              | 3.20                | 15.00                                | 17.21              | 16.05              | 33.50  | 32.00  | 3.00   | 17.40                | 25.90              | 3.60                 |
| 12         | 24.00  | 29.10              |                     | 19.05                                |                    |                    |        | 35.20  |        | 21.90                | 29.10              |                      |
| 16         | 30.30  | 34.80              |                     | 25.40                                |                    |                    |        | 41.00  |        | 28.20                | 34.80              |                      |
| 18         | 33.70  | 38.20              |                     | 28.57                                |                    |                    |        | 44.70  |        | 31.40                | 38.20              |                      |
| 20         | 37.00  | 41.60              |                     | 31.75                                |                    |                    |        | 47.90  |        | 34.60                | 41.60              |                      |
| 24         | 43.40  | 49.50              | 3.77                | 38.10                                | 18.20              | 15.29              |        | 55.80  |        | 41.00                | 49.50              | 4.10                 |

Note : all dimensions are in mm

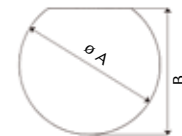
# 8STA Power



## Jam nut receptacle

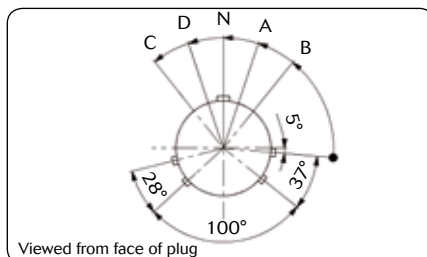
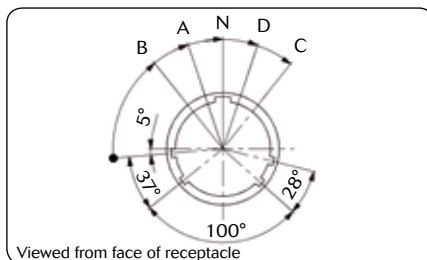


PANEL CUT OUT



| Shell size | ø A <sup>±0.03</sup> | B1-B2 <sup>±0.24</sup> | ø D <sup>0</sup> <sub>0.12</sub> | E <sup>±0.10</sup> | F <sup>±0.24</sup> | G <sup>±0.3</sup> | P max. | PANEL CUT OUT        |                    |
|------------|----------------------|------------------------|----------------------------------|--------------------|--------------------|-------------------|--------|----------------------|--------------------|
|            |                      |                        |                                  |                    |                    |                   |        | ø A <sup>±0.10</sup> | B <sup>±0.20</sup> |
| 10         | 30.15                | 27.30                  | 14.94                            | 25.91              | 23.24              | 36.71             | 3.00   | 17.70                | 16.80              |
| 12         | 34.89                | 32.10                  | 19.01                            |                    |                    |                   |        | 22.70                | 20.90              |
| 16         | 41.25                | 38.40                  | 25.36                            |                    |                    |                   |        | 28.80                | 27.20              |
| 18         | 44.41                | 41.60                  | 28.53                            | 26.71              |                    | 37.51             |        | 32.00                | 30.40              |
| 20         | 49.19                | 46.30                  | 31.71                            |                    |                    |                   |        | 35.10                | 33.60              |
| 24         | 55.50                | 52.45                  | 38.06                            |                    |                    |                   |        | 42.00                | 39.90              |

## Orientation



| Shell size | Orientations |             |           |             |            |
|------------|--------------|-------------|-----------|-------------|------------|
|            | N<br>Red     | A<br>Yellow | B<br>Blue | C<br>Orange | D<br>Green |
| 10         | 95°          | 81°         | 67°       | 123°        | 109°       |
| 12         | 95°          | 75°         | 63°       | 127°        | 116°       |
| 16         | 95°          | 77°         | 65°       | 125°        | 113°       |
| 20         | 95°          | 77°         | 65°       | 125°        | 113°       |
| 24         | 95°          | 80°         | 69°       | 121°        | 110°       |

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

# 8STA Power



## Contacts

### Crimped contacts

| Contact size       | Contact type | Contact Ø max. | Part numbers   | Admissible wire section |    |                        |      | External dia. over insulation (mm) |      |
|--------------------|--------------|----------------|----------------|-------------------------|----|------------------------|------|------------------------------------|------|
|                    |              |                |                | AWG                     |    | mm²                    |      |                                    |      |
|                    |              |                |                | Crimp contact           |    |                        | Min. | Max.                               | Min. |
| 22D signal contact | Male         | 0.76           | 8599-0702 JJ   | 28                      | 22 | 0.09                   | 0.38 | 0.76                               | 1.37 |
|                    | Female       |                | 8599-0706 900  |                         |    |                        |      |                                    |      |
| 20 signal contact  | Male         | 1.00           | 8599-0703 SA   | 24                      | 20 | 0.21                   | 0.60 | 1.02                               | 2.11 |
|                    | Female       |                | 8599-0707 900  |                         |    |                        |      |                                    |      |
| 16 signal contact  | Male         | 1.60           | 8599-0704 MJ   | 20                      | 16 | 0.60                   | 1.34 | 1.65                               | 2.77 |
|                    | Female       |                | 8599-0708 900  |                         |    |                        |      |                                    |      |
| 08 power contact   | Male         | 3.64           | 8599-7544      | -                       | 8  | -                      | 8.98 | 4.50                               | 6.50 |
|                    | Female       |                | 8599-7541      |                         |    |                        |      |                                    |      |
|                    | Boot         |                | 8599-4542      |                         |    |                        |      |                                    |      |
|                    | Reductor**   |                | 8599-7645      |                         |    |                        |      |                                    |      |
| 04 power contact   | Male         | 5.75           | 8599-7520A 900 | 7                       | 10 | According to wire used |      |                                    |      |
|                    | Female       |                | 8599-7521A 900 |                         |    |                        |      |                                    |      |
|                    | Boot         |                | 8599-4590      |                         |    |                        |      |                                    |      |
|                    | Reductor*    |                | 8400-2351A     |                         |    |                        |      |                                    |      |
|                    | Male         |                | 8599-7520A 900 | 4                       | 16 |                        |      |                                    |      |
|                    | Female       |                | 8599-7521A 900 |                         |    |                        |      |                                    |      |
|                    | Boot         |                | 8599-4591      |                         |    |                        |      |                                    |      |

\* Reductor must be used for wire 8 & 10 mm<sup>2</sup> / \*\* Reductor must be used for wire 8 mm<sup>2</sup>

### Crimping tools

| Contact size | Type   | Pliers             |         |                     |         |                     |                 |                     |
|--------------|--------|--------------------|---------|---------------------|---------|---------------------|-----------------|---------------------|
|              |        | M22520/1-01        |         | M22520/2-01         |         | M300BT              | M22520/23-01*   |                     |
|              |        | Turret Part number |         | Locator Part number |         | Locator Part number | Die Part number | Locator Part number |
|              |        | Spec.              | SOURIAU | Spec.               | SOURIAU |                     |                 |                     |
| 22D          | Male   | -                  | -       | M22520/2-09         | 8476-09 | -                   | -               | -                   |
|              | Female |                    |         | M22520/2-07         | 8476-07 |                     |                 |                     |
| 20           | Male   | M22520/1-04        | 8365-04 | M22520/2-10         | 8476-10 |                     |                 |                     |
| 16           | Female |                    |         |                     |         |                     |                 |                     |
| 8            | Male   | -                  | -       | -                   | -       | SP 593              | M22520/23-02    | 8599-9601           |
|              | Female |                    |         |                     |         |                     |                 |                     |
| 4            | Male   | -                  | -       | -                   | -       | -                   | M22520/23-04    | M22520/23-11        |
|              | Female |                    |         |                     |         |                     |                 |                     |

\* Pneumatic pliers



# 8STA Power

|        | Contact size |    |    |    |   |
|--------|--------------|----|----|----|---|
|        | 22D          | 20 | 16 | 8  | 4 |
| L (mm) | 4            | 6  |    | 12 |   |

## Accessories

| Shell size | øA    | ø B <sup>±0.05</sup> | C <sup>±0.05</sup> | D   |
|------------|-------|----------------------|--------------------|-----|
| 10         | 13.72 | 12.65                | 6                  | 3.5 |
| 12         | 17.26 | 16.02                |                    |     |
| 16         | 23.60 | 22.23                |                    |     |
| 18         | 26.76 | 25.22                |                    |     |
| 20         | 29.93 | 28.37                |                    |     |
| 24         | 36.30 | 34.67                |                    |     |

| Contact size | Material | Part numbers |           | Colour    |            |
|--------------|----------|--------------|-----------|-----------|------------|
|              |          | Spec.        | SOURIAU   | Insertion | Extraction |
| 22D          | Plastic  | M81969/14-01 | -         | Green     | White      |
| 20           | Plastic  | M81969/14-10 | -         | Red       | Orange     |
| 16           | Plastic  | M81969/14-03 | -         | Blue      | White      |
| 8            | Plastic  | M81969/14-06 | -         | -         | Red        |
|              | Metallic | -            | 8660-197  |           | -          |
| 4            | Plastic  | M81969/14-07 | -         | -         | Blue       |
|              | Metallic | -            | 8533-8175 |           | -          |

Note : all dimensions are in mm





[www.motorsport-connectors.com](http://www.motorsport-connectors.com)

# 8STA Integrated Clinchnut



## Features & Benefits

### A reliable solution

- Same nut design & material as standard nut plates

### 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 receptacles (shell style 0) & PCB receptacles (shell style 2)

### Respect for environment

- RoHS compliant

### Current solution:



Nut plate fixed on the rear connector side

Connector + Nut plate

### NEW solution:



Integrated clinchnut on the flange

## Technical characteristics

### 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 matings/unmatings                |
| • Shock resistance     | 300 g for 3 ms and EIA-364-27        |
| • Vibration resistance | 147 m/s <sup>2</sup> , 10 to 2000 Hz |
| • Contact retention    | Size 26 35 N                         |
|                        | Size 22D 45 N                        |
|                        | Size 20 60 N                         |
|                        | Size 16 100 N                        |
|                        | Size 12 100 N                        |
|                        | Size 8 110 N                         |
|                        | Size 4 200 N                         |

### Electrical

Please see details in each section concerned

### Climatic

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

# 8STA Integrated Clinchnut

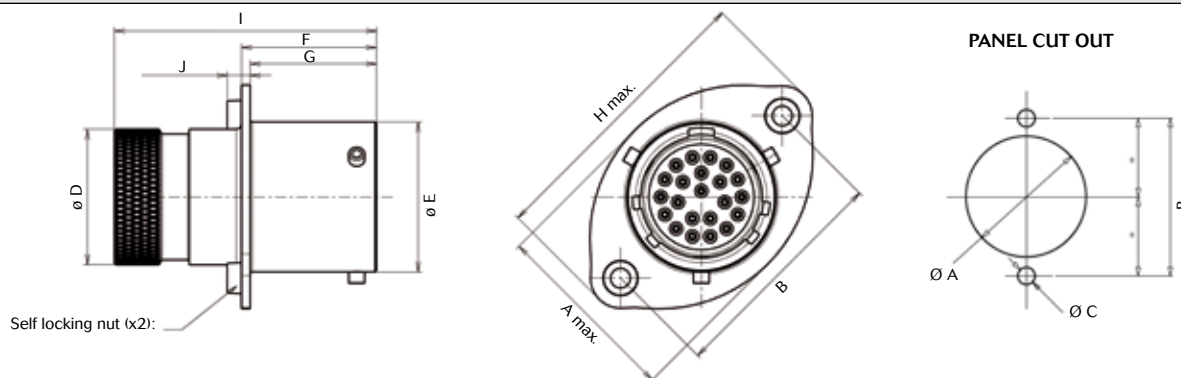
## How to order

|                  |                                                                                                                                                                      |   |    |    |   |   |   |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|----|----|---|---|---|
| Basic series     | 8STA                                                                                                                                                                 | 0 | 10 | 35 | P | N | - |
| Shell style      | 0: Oval flange receptacle<br>2: Oval flange receptacle with PCB contacts                                                                                             |   |    |    |   |   |   |
| Shell size       | 02 - 04 - 06 - 08 - 10 - 12 - 14 - 16 - 18 - 20 - 22 - 24                                                                                                            |   |    |    |   |   |   |
| Contact layouts  | all contact layouts - see page 6-8                                                                                                                                   |   |    |    |   |   |   |
| Type of contacts | P: Pin contacts<br>S: Socket contacts                                                                                                                                |   |    |    |   |   |   |
| Orientations     | N: Red / A: Yellow / B: Blue / C: Orange / D: Green / U: Universal                                                                                                   |   |    |    |   |   |   |
| Specification*   | 499: Integrated nut on the flange - M2 insert for sizes 02 & 04 / M3 insert for sizes 08 to 24<br>528: Integrated nut on the flange - M2.5 insert for sizes 02 to 06 |   |    |    |   |   |   |

\* Mandatory

## Range presentation

### Oval flange receptacle

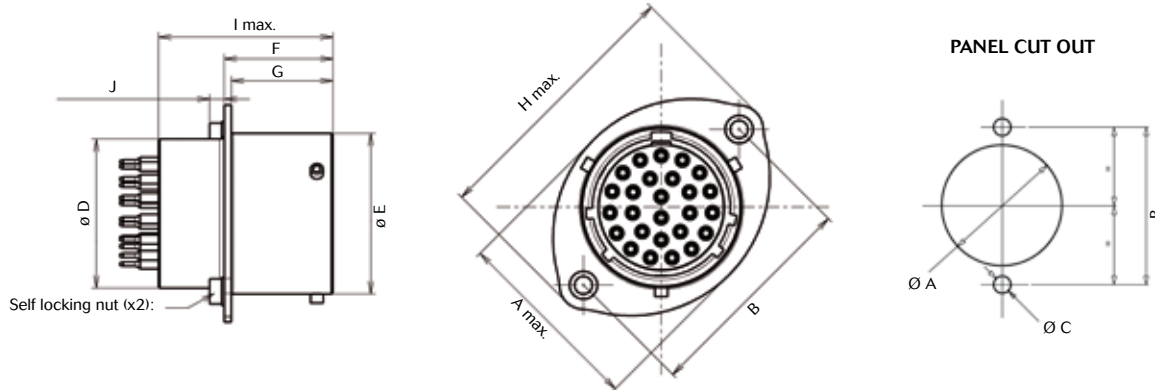


| Shell size | A max. | B $\pm 0.20$ | $\varnothing D$ | $\varnothing E$ | F     | G     | H     | I     | J    | PANEL CUT OUT            |              |                          |
|------------|--------|--------------|-----------------|-----------------|-------|-------|-------|-------|------|--------------------------|--------------|--------------------------|
|            |        |              |                 |                 |       |       |       |       |      | $\varnothing A \pm 0.10$ | B $\pm 0.20$ | $\varnothing C \pm 0.20$ |
| 02         | 10.50  | 15.4         | 7.20            | 8.30            | 10.15 | 8.80  | 21.4  | 16.30 | 3.22 | 9.30                     | 15.30        | 3.10                     |
| 04         | 13.2   | 16.4         | 8.6             | 10.2            | 10.7  | 9.2   | 22.3  | 18.30 | 3.37 | 12.00                    | 16.20        |                          |
| 06         | 15.0   | 18.2         | 10.35           | 12.0            | 12.95 | 10.95 | 24.0  | 23.25 | 3.83 | 13.00                    | 18.00        |                          |
| 08         | 16.50  | 21.40        | 10.62           | 12.00           | 17.21 | 16.05 | 29.25 | 33.4  | 3.32 | 14.50                    | 21.40        | 3.60                     |
| 10         | 19.50  | 25.90        | 13.72           | 15.00           |       |       | 33.75 |       |      | 17.40                    | 25.90        |                          |
| 12         | 24.00  | 29.10        | 17.26           | 19.05           |       |       | 36.95 |       |      | 21.90                    | 29.10        |                          |
| 14         | 27.00  | 32.50        | 20.41           | 22.22           |       |       | 40.35 |       |      | 25.00                    | 32.50        |                          |
| 16         | 30.30  | 34.80        | 23.60           | 25.40           |       |       | 42.65 |       |      | 28.20                    | 34.80        |                          |
| 18         | 33.70  | 38.20        | 26.76           | 28.57           |       |       | 46.05 |       |      | 31.40                    | 38.20        |                          |
| 20         | 37.00  | 41.60        | 29.93           | 31.75           |       | 15.29 | 49.45 |       |      | 34.60                    | 41.60        |                          |
| 22         | 40.40  | 45.00        | 33.11           | 34.90           |       |       | 52.85 |       |      | 37.60                    | 45.00        |                          |
| 24         | 43.40  | 49.50        | 36.30           | 38.10           | 18.20 |       | 57.35 |       |      | 41.00                    | 49.50        | 4.10                     |

Note : all dimensions are in mm

# 8STA Integrated Clinchnut

## Oval flange receptacle with PCB contacts



| Shell size | A max. | B $\pm 0.20$ | $\varnothing$ D max. | E     | F     | G     | H max. | I max. | J    | PANEL CUT OUT              |              |                            |
|------------|--------|--------------|----------------------|-------|-------|-------|--------|--------|------|----------------------------|--------------|----------------------------|
|            |        |              |                      |       |       |       |        |        |      | $\varnothing$ A $\pm 0.10$ | B $\pm 0.20$ | $\varnothing$ C $\pm 0.20$ |
| 02         | 10.5   | 15.3         | 7.2                  | 8.3   | 10.15 | 8.8   | 21.3   | 17.5   | 2.05 | 9.30                       | 15.30        | 3.10                       |
| 04         | 13.2   | 16.4         | 8.6                  | 10.2  | 10.7  | 9.2   | 22.2   | 18.3   |      | 12.00                      | 16.20        |                            |
| 06         | 15.0   | 18.2         | 10.35                | 12.0  | 12.95 | 10.95 | 24.0   | 23.25  |      | 13.00                      | 18.00        |                            |
| 08         | 16.50  | 21.40        | 11.10                | 12.00 | 17.21 | 16.05 | 42.40  | 27.65  | 2.72 | 14.50                      | 21.40        | 3.60                       |
| 10         | 19.50  | 25.90        | 13.90                | 14.87 |       |       |        |        |      | 17.40                      | 25.90        |                            |
| 12         | 24.00  | 29.10        | 17.35                | 19.05 |       |       |        |        |      | 21.90                      | 29.10        |                            |
| 14         | 27.00  | 32.50        | 20.50                | 22.22 |       |       |        |        |      | 25.00                      | 32.50        |                            |
| 16         | 30.30  | 34.80        | 23.70                | 25.40 |       |       |        |        |      | 28.20                      | 34.80        |                            |
| 18         | 33.70  | 38.20        | 26.91                | 28.57 |       | 31.40 |        |        |      | 38.20                      |              |                            |
| 20         | 37.00  | 41.60        | 30.11                | 31.77 |       | 34.60 |        |        |      | 41.60                      |              |                            |
| 22         | 40.40  | 45.00        | 33.20                | 34.90 |       | 37.60 |        |        |      | 45.00                      |              |                            |
| 24         | 43.40  | 49.50        | 36.40                | 38.10 | 18.20 |       |        |        |      | 41.00                      | 49.50        | 4.10                       |

For gaskets, please see page 63 in Accessories section.



[www.motorsport-connectors.com](http://www.motorsport-connectors.com)



# 8STA Hermetic shell size 02



## Features & Benefits

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><li>• <b>The smallest hermetic circular 5 way PC tail connector on the market</b></li><li>• <b>Lightweight 8STA connector</b><ul style="list-style-type: none"><li>- Miniaturisation</li><li>- Weight: 3 grammes</li></ul></li><li>• <b>Suitable for welding directly to sensor bodies</b><ul style="list-style-type: none"><li>- Designed for weld fixing</li></ul></li><li>• <b>Excellent corrosion resistance</b><ul style="list-style-type: none"><li>- Stainless steel body</li></ul></li></ul> | <ul style="list-style-type: none"><li>• <b>Excellent hermeticity</b><ul style="list-style-type: none"><li>- Hermetic glass bead (<math>1.10^{-7}</math> cm<sup>3</sup>/s)</li></ul></li><li>• <b>Intermateable with standard 8STA plug size 02-05</b><ul style="list-style-type: none"><li>- Standard plug 02-05</li></ul></li><li>• <b>Easy identification with colour coded bands</b><ul style="list-style-type: none"><li>- 7 visual keyway orientations</li></ul></li><li>• <b>Rapid &amp; secure locking system with audible click</b><ul style="list-style-type: none"><li>- Bayonet connector</li></ul></li></ul> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Technical characteristics

| Mechanical             |                               | Electrical                 |                                    |
|------------------------|-------------------------------|----------------------------|------------------------------------|
| • Shell                | Stainless steel               | • Test voltage             | 400 V (sea level)                  |
| • Shell plating        | Passivated                    | • Contact resistance       | 2 mΩ                               |
| • Insulator            | Glass bead                    | • Insulation resistance    | ≥ 5000 MΩ (at 500 Vdc)             |
| • Contact              | Iron-Nickel (NiFe2)           | • Contact rating           | 1.5 A                              |
| • Contact plating      | Nickel                        |                            |                                    |
| • Endurance            | 500 matings/unmatings         | Climatic                   |                                    |
| • Shock resistance     | 300 g for 3 ms and EIA-364-27 | • Temperature range        | -55°C to +175°C                    |
| • Vibration resistance | 10 to 2000 Hz 30g             | • Sealing mated connectors | IP67 (1 metre for 30 min. minimum) |
|                        |                               | • Salt spray               | 48 hours                           |
|                        |                               | • Hermeticity              | $1.10^{-7}$ CM <sup>3</sup> /S     |

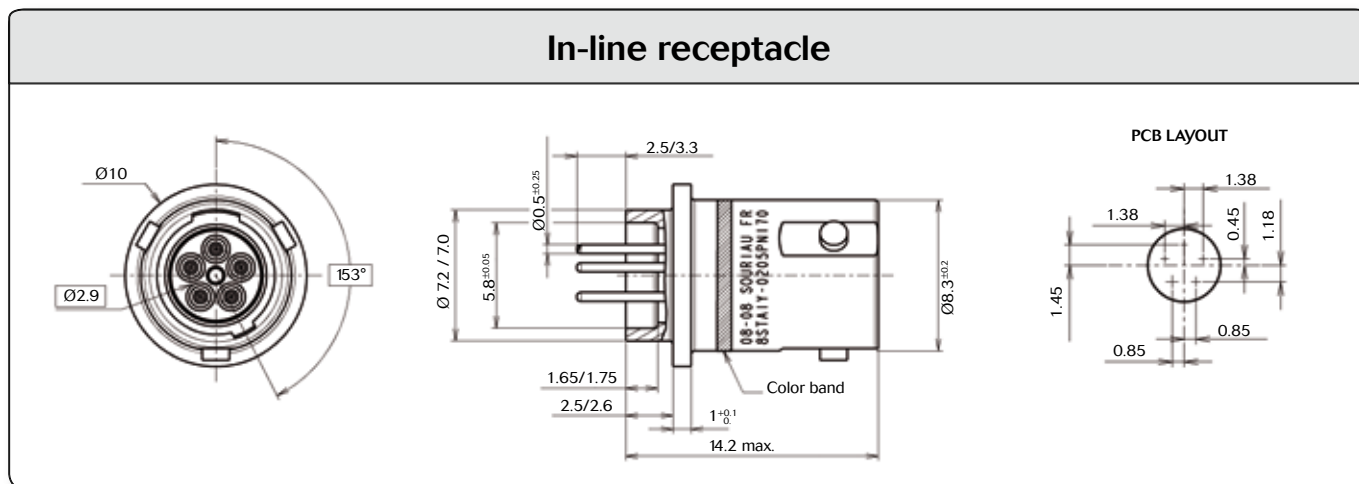
# 8STA Hermetic shell size 02

## How to order

|                |                                                                              |   |   |    |    |   |   |     |
|----------------|------------------------------------------------------------------------------|---|---|----|----|---|---|-----|
| Basic series   | 8STA                                                                         | 1 | y | 02 | 05 | P | N | 170 |
| Shell style    | 1: In-line connector                                                         |   |   |    |    |   |   |     |
| Class          | y: Hermetic version                                                          |   |   |    |    |   |   |     |
| Shell size     | 02                                                                           |   |   |    |    |   |   |     |
| Layout         | 05 (5 straight spill contacts #26 )                                          |   |   |    |    |   |   |     |
| Contact gender | P: Pin contacts                                                              |   |   |    |    |   |   |     |
| Orientation    | N: Red / A: Yellow / B: Blue / C: Orange / D: Green / E: Grey / U: Universal |   |   |    |    |   |   |     |
| Specification* | 170                                                                          |   |   |    |    |   |   |     |

\* Mandatory

## Range presentation







# 8STA Hermetic Fuel Tank



## Features & Benefits

- **Hermetically sealed connector** -  $1.10^{-7} \text{ cm}^3/\text{s}$  @ 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 characteristics

### Mechanical

|                        |                               |
|------------------------|-------------------------------|
| • Shell                | Stainless steel               |
| • Shell plating        | Passivated                    |
| • Insulator            | Glass bead                    |
| • Contact              | Nickel Iron                   |
| • Contact plating      | Gold                          |
| • Endurance            | 500 matings/unmatings         |
| • Shock resistance     | 300 g for 3 ms and EIA-364-27 |
| • Vibration resistance | 10 to 2000 Hz 30g             |

### Electrical

|                         |                                          |
|-------------------------|------------------------------------------|
| • Test voltage          | 1800 V / Service I (sea level)           |
| • Contact resistance    | 2 mΩ                                     |
| • Insulation resistance | $\geq 5000 \text{ M}\Omega$ (at 500 Vdc) |
| • Contact rating        | Size 16: 10 A<br>Size 20: 5 A            |

### Climatic

|                            |                                    |
|----------------------------|------------------------------------|
| • Temperature range        | -55°C to +175°C                    |
| • Sealing mated connectors | IP67 (1 metre for 30 min. minimum) |
| • Salt spray               | 48 hours                           |
| • Hermeticity              | $1.10^{-7} \text{ cm}^3/\text{s}$  |

# 8STA Hermetic Fuel Tank



## How to order

|                |                               |   |   |    |    |   |   |     |
|----------------|-------------------------------|---|---|----|----|---|---|-----|
| Basic series   | 8STA                          | 7 | y | 10 | 98 | P | N | 022 |
| Shell style    | 7: Jam nut receptacle         |   |   |    |    |   |   |     |
| Class          | y: Hermetic version           |   |   |    |    |   |   |     |
| Shell size     | 10 - 12 - 14                  |   |   |    |    |   |   |     |
| Layouts        | See layouts available below   |   |   |    |    |   |   |     |
| Contact gender | P: Pin contacts               |   |   |    |    |   |   |     |
| Orientation    | N: Red / A: Yellow / D: Green |   |   |    |    |   |   |     |
| Specification* | 022: Fuel immersible version  |   |   |    |    |   |   |     |

\* Mandatory

## Contact layouts

| Size 10                                        | Size 12                                                                                    | Size 14                                                         |
|------------------------------------------------|--------------------------------------------------------------------------------------------|-----------------------------------------------------------------|
| <p><b>98</b></p> <p><b>6 #20 Service I</b></p> | <p><b>04</b>      <b>98</b></p> <p><b>4 #16 Service I</b>      <b>10 #20 Service I</b></p> | <p><b>97</b></p> <p><b>4 #16</b><br/><b>8 #20 Service I</b></p> |

## Range presentation

| Jam nut receptacle |          |          |        |          |          |                      |              |
|--------------------|----------|----------|--------|----------|----------|----------------------|--------------|
|                    |          |          |        |          |          | <p>PANEL CUT OUT</p> |              |
| Shell size         | ø A max. | ø B max. | C max. | ø D max. | E Thread | PANEL CUT OUT        |              |
|                    |          |          |        |          |          | ø F $\pm 0.10$       | G $\pm 0.20$ |
| 10                 | 15.04    | 28.40    | 25.95  | 20.50    | M18 x 1  | 17.70                | 16.80        |
| 12                 | 19.09    | 33.00    | 30.75  | 23.67    | M21 x 1  | 22.70                | 20.90        |
| 14                 | 22.26    | 36.30    | 33.85  | 26.84    | M24 x 1  | 25.70                | 24.10        |

Note : all dimensions are in mm



# 8STA/8TA Fuel Immersible



## Features & Benefits

- Continuous immersion without loss of performance
  - Special fuel resistant insert
- Excellent connector sealing on panels by using the jam nut version

## Technical characteristics

|                                                                                                                                                                                                                                                                                    | 8STA                                                                                                                                                           | 8TA                                                                                                                                                            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Mechanical</b> <ul style="list-style-type: none"><li>• Shell</li><li>• Shell plating</li><li>• Insulator</li><li>• Grommet &amp; seal</li><li>• Contact</li><li>• Contact plating</li><li>• Endurance</li><li>• Shock</li><li>• Vibration</li><li>• Contact retention</li></ul> | Aluminium alloy<br>Conductive black zinc<br>Thermoplastic<br>Fluoroelastomer<br>Copper alloy<br>Gold<br>500 matings/unmatings<br>300 g for 3 ms and EIA-364-27 | Aluminium alloy<br>Conductive black zinc<br>Thermoplastic<br>Fluoroelastomer<br>Copper alloy<br>Gold<br>500 matings/unmatings<br>300 g for 3 ms and EIA-364-27 |
|                                                                                                                                                                                                                                                                                    | 147 m/s <sup>2</sup> , 10 to 2000 Hz<br>Size 22D: 45 N / Size 20: 60 N<br>Size 16: 100 N / Size 12: 100 N                                                      | random 100 to 1000 Hz - 1G <sup>2</sup> /Hz<br>Size 22D: 45 N                                                                                                  |
| <b>Electrical</b> <ul style="list-style-type: none"><li>• Test voltage</li><li>• Contact resistance</li><li>• Insulation resistance at 500 Vdc</li><li>• Contact rating</li><li>• Shell continuity</li></ul>                                                                       | Size 22D: 14.6 mΩ / Size 20: 7.3 mΩ<br>Size 16: 3.8 mΩ / Size 12: 3.5 mΩ<br><br>Size 22D: 5 A / Size 20: 7.5 A<br>Size 16: 13 A / Size 12: 23 A                | Size 22D: 14.6 mΩ<br><br>Size 22D: 5 A                                                                                                                         |
| <b>Climatic</b> <ul style="list-style-type: none"><li>• Temperature range</li><li>• Sealing mated connectors</li><li>• Salt spray</li></ul>                                                                                                                                        | -55°C to +175°C<br>IP67 (1 metre for 30 min. minimum)<br>48 hours                                                                                              | -55°C to +175°C<br>IP67 (1 metre for 30 min. minimum)<br>48 hours                                                                                              |
| <b>Resistance to fluids</b>                                                                                                                                                                                                                                                        | withstands most of Motorsport fluids                                                                                                                           | withstands most of Motorsport fluids                                                                                                                           |



# 8STA/8TA Fuel Immersible

## How to order

|                |                                                                                        |      |   |    |    |   |   |     |
|----------------|----------------------------------------------------------------------------------------|------|---|----|----|---|---|-----|
| Basci series   |                                                                                        | 8STA | 0 | 08 | 35 | P | N | 022 |
|                |                                                                                        | 8TA  | 0 | 08 | 35 | P | N | 022 |
| Shell style    | 0: Oval flange receptacle<br>1: In-line receptacle<br>6: Plug<br>7: Jam nut receptacle |      |   |    |    |   |   |     |
| Shell size     | 04 - 08 - 10 - 12 - 14 - 16                                                            |      |   |    |    |   |   |     |
| Layouts        | See layouts available below                                                            |      |   |    |    |   |   |     |
| Contact gender | P: Pin contacts<br>S: Socket contacts                                                  |      |   |    |    |   |   |     |
| Orientation    | N: Red / A: Yellow / D: Green                                                          |      |   |    |    |   |   |     |
| Specification* | 022                                                                                    |      |   |    |    |   |   |     |

\* Mandatory

## Contact layouts

Size 04

05

35

Size 08

35

98

Size 10

05

35

98

Size 12

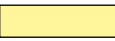
98

Size 14

35

Size 16

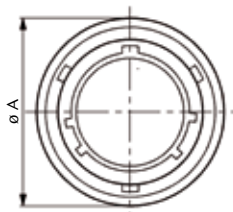
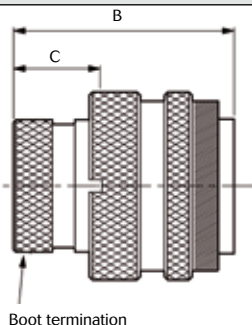
08

 For both 8STA & 8TA, all others being for 8STA only.

# 8STA/8TA Fuel Immersible

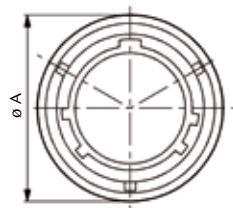
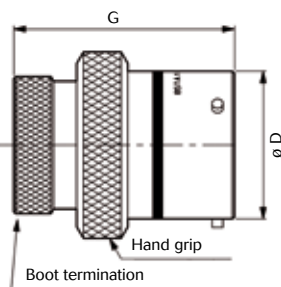
## Range presentation

### Plug



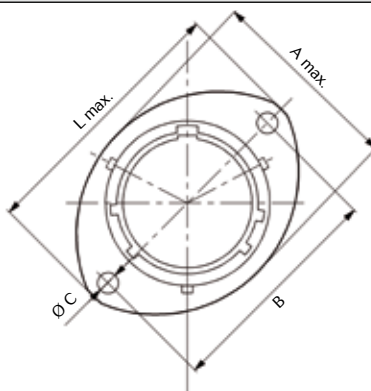
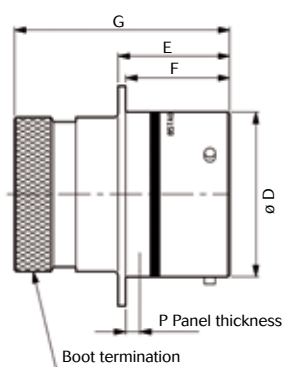
| Shell size | ø A max. | B max. | C max. |
|------------|----------|--------|--------|
| 04         | 13.55    | 18.50  | 7.9    |
| 08         | 18.70    | 33.50  | 15     |
| 10         | 21.50    |        |        |
| 12         | 25.10    |        |        |
| 14         | 29.00    |        |        |
| 16         | 32.20    |        |        |

### In-line receptacle

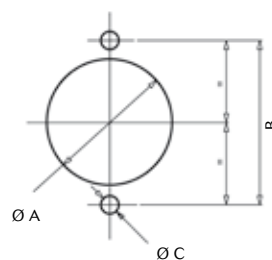


| Shell size | ø A max. | ø D <sup>+0.20</sup> | G max. |
|------------|----------|----------------------|--------|
| 04         | -        | 10.20                | 18.15  |
| 08         | 17.60    | 12.00                | 33.50  |
| 10         | 20.70    | 15.00                |        |
| 12         | 25.10    | 19.05                |        |
| 14         | 28.30    | 22.22                |        |
| 16         | 31.40    | 25.40                |        |

### Oval flange receptacle



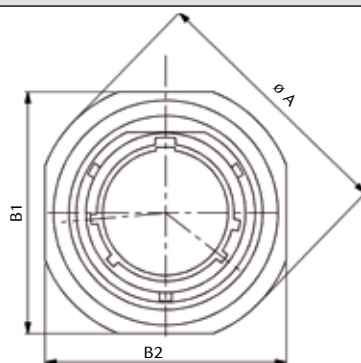
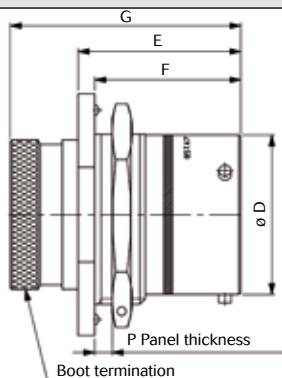
#### PANEL CUT OUT



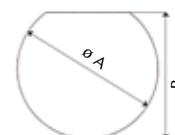
| Shell size | A max. | B <sup>±0.20</sup> | ø C <sup>+0.10</sup> <sub>0</sub> | ø D <sup>+0.2</sup> <sub>-0.13</sub> | E <sup>0</sup> <sub>+0.15</sub> | F <sup>0</sup> <sub>-0.13</sub> | G max. | L max. | P max. | PANEL CUT OUT        |                    |                      |
|------------|--------|--------------------|-----------------------------------|--------------------------------------|---------------------------------|---------------------------------|--------|--------|--------|----------------------|--------------------|----------------------|
|            |        |                    |                                   |                                      |                                 |                                 |        |        |        | ø A <sup>±0.10</sup> | B <sup>±0.20</sup> | ø C <sup>±0.20</sup> |
| 04         | 13.20  | 16.40              | 2.65                              | 10.20                                | 10.70                           | 9.20                            | 18.30  | 20.85  | 2.00   | 12.00                | 16.20              | 3.10                 |
| 08         | 16.50  | 21.40              | 3.20                              | 12.00                                | 17.21                           | 16.05                           | 33.50  | 27.20  | 3.00   | 14.50                | 21.40              | 3.60                 |
| 10         | 19.50  | 25.90              |                                   | 15.00                                |                                 |                                 |        | 32.00  |        | 17.40                | 25.90              |                      |
| 12         | 24.00  | 29.10              |                                   | 19.05                                |                                 |                                 |        | 35.20  |        | 21.90                | 29.10              |                      |
| 14         | 27.00  | 32.50              |                                   | 22.22                                |                                 |                                 |        | 38.40  |        | 25.00                | 32.50              |                      |
| 16         | 30.30  | 34.80              |                                   | 25.40                                |                                 |                                 |        | 41.00  |        | 28.20                | 34.80              |                      |

# 8STA/8TA Fuel Immersible

## Jam nut receptacle



PANEL CUT OUT



| Shell size | $\varnothing A \pm 0.03$ | $B1-B2 \pm 0.24$ | $\varnothing D_{0.12}^0$ | $E \pm 0.10$ | $F \pm 0.24$ | $G \pm 0.3$ | P max.     | PANEL CUT OUT            |               |
|------------|--------------------------|------------------|--------------------------|--------------|--------------|-------------|------------|--------------------------|---------------|
|            |                          |                  |                          |              |              |             |            | $\varnothing A \pm 0.10$ | $B \pm 0.20$  |
| 04         | 18.00                    | 20.20            | 10.20                    | 18.15        | 16.20        | 25.75       | 1.5 to 5.0 | 13.50                    | 12.80 - 13.00 |
| 08         | 26.90                    | 24.10            | 11.97                    | 25.91        | 23.24        | 36.71       | 3.00       | 14.50                    | 13.60         |
| 10         | 30.15                    | 27.30            | 14.94                    |              |              |             |            | 17.70                    | 16.80         |
| 12         | 34.89                    | 32.10            | 19.01                    |              |              |             |            | 22.70                    | 20.90         |
| 14         | 38.06                    | 34.92            | 22.18                    |              |              |             |            | 25.70                    | 24.10         |
| 16         | 41.25                    | 38.40            | 25.36                    |              |              |             |            | 28.80                    | 27.20         |

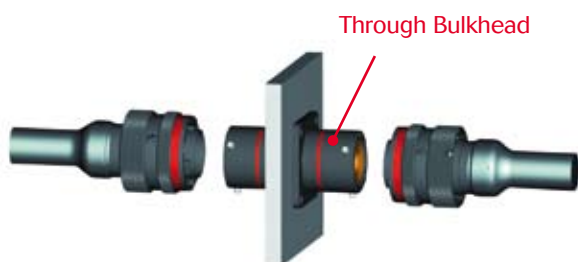
For other shell sizes, please consult us.

# 8STA Through Bulkhead



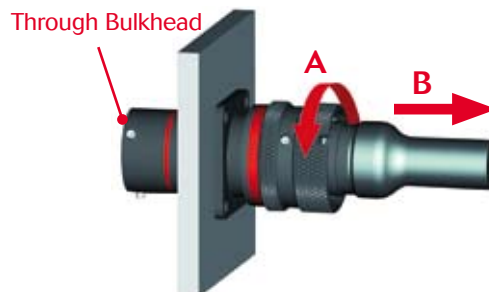
## Features & Benefits

- Easy mating/unmating on both sides of the bulkhead



- Significant time saving advantage over conventional plugs & receptacles
  - «Double receptacle» mounted on panel
- The smallest single way power through bulkhead connector on the market
  - 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
- Simplifies maintenance procedures having a detachable connector on each side of the bulkhead



- Ideal for external use (dust, water etc.)
  - IP67 (Interfacial & mating seals)
- RoHS compliant
  - Respect for environment

## Technical characteristics

### 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 matings/unmatings                |
| • Shock resistance     | 300 g for 3 ms and EIA-364-27        |
| • Vibration resistance | 147 m/s <sup>2</sup> , 10 to 2000 Hz |
| • Contact retention    | 200 N                                |

### Electrical

|                         |                        |
|-------------------------|------------------------|
| • Test voltage          | 1300 Vrms (sea level)  |
| • Contact resistance    | 2 mΩ                   |
| • Insulation resistance | ≥ 5000 MΩ (at 500 Vdc) |
| • Contact rating        | 125 A (continuous)     |

### Climatic

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

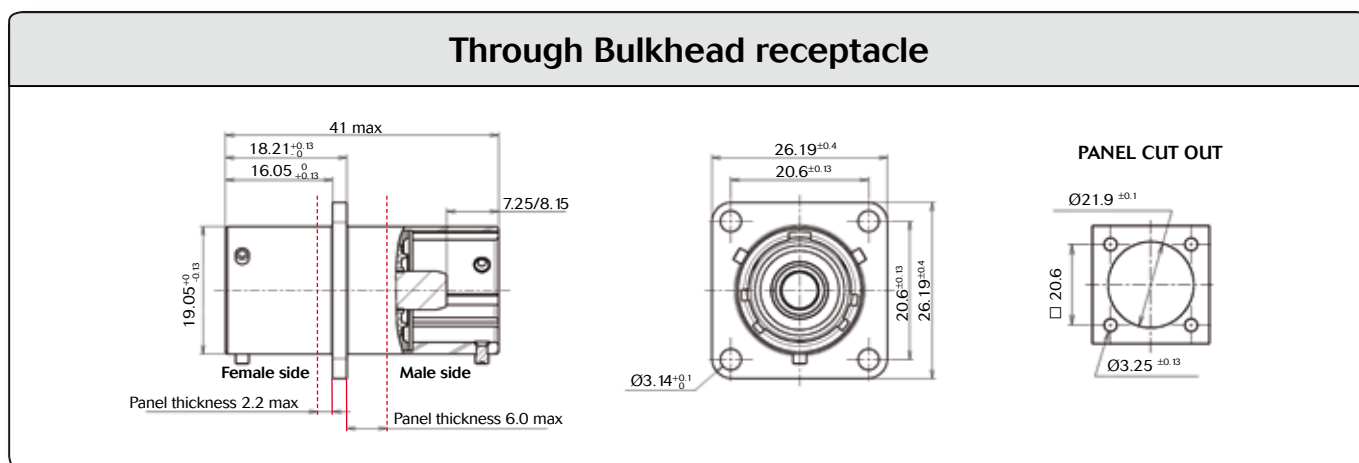
# 8STA Through Bulkhead

## How to order

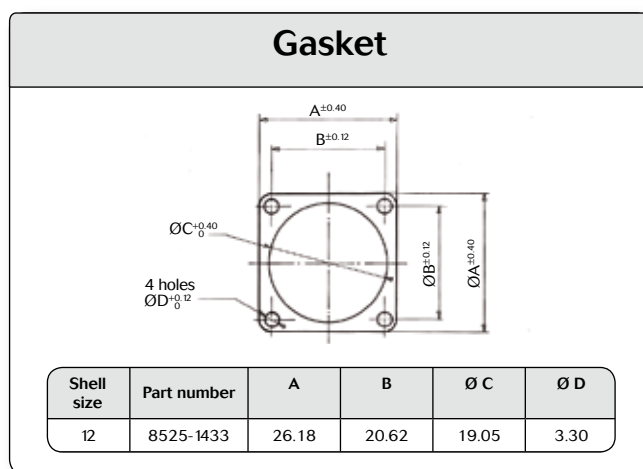
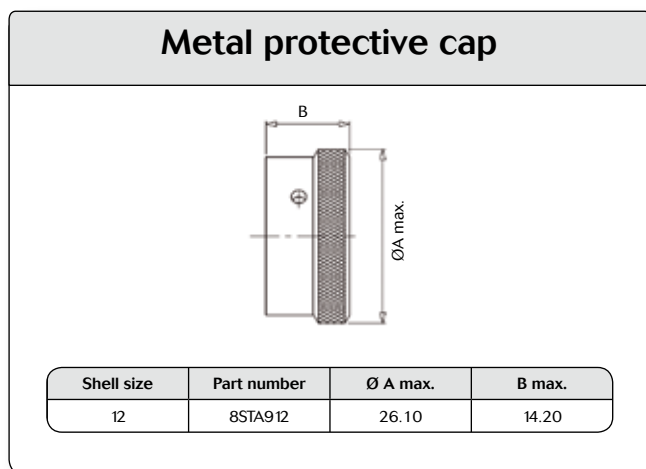
|                 |                                                                    |   |    |    |    |   |     |
|-----------------|--------------------------------------------------------------------|---|----|----|----|---|-----|
| Basic series    | 8STA                                                               | 0 | 12 | 01 | PS | N | 500 |
| Shell style     | 0: Receptacle                                                      |   |    |    |    |   |     |
| Shell size      | 12                                                                 |   |    |    |    |   |     |
| Layout          | 01 (1 power contact #4)                                            |   |    |    |    |   |     |
| Type of contact | P S: Pin + Socket contacts                                         |   |    |    |    |   |     |
| Orientation     | N: Red / A: Yellow / B: Blue / C: Orange / D: Green / U: Universal |   |    |    |    |   |     |
| Specification*  | 500: Through Bulkhead connector                                    |   |    |    |    |   |     |

\* Mandatory / Please consult us for other sizes & layouts

## Range presentation



## Accessories







# 8TA Connector



## Features & Benefits

|                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                             |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><li>• Rugged aluminium body to ensure long service life in the harshest environment</li><li>• Compact low profile derived from MIL-DTL-38999 Series 2</li><li>• 6 gold plated #22D contacts</li><li>• Environment sealing from interfacial seal and rear grommet</li></ul> | <ul style="list-style-type: none"><li>• Positive locking mechanism with locked colour indicators 3 keyway orientations</li><li>• Boot termination feature</li><li>• Conductive black zinc plating</li></ul> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Technical characteristics

| Mechanical                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                             | Electrical                                                                                                                                                                      |                                                                                               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><li>• Shell</li><li>• Shell plating</li><li>• Insulator</li><li>• Seal</li><li>• Contact</li><li>• Contact plating</li><li>• Endurance</li><li>• Shock resistance</li><li>• Vibration resistance</li><li>• Contact retention</li></ul> | <p>Aluminium alloy<br/>Conductive black zinc<br/>Thermoplastic<br/>Liquid silicone rubber<br/>Copper alloy<br/>Gold<br/>500 matings/unmatings<br/>300 g for 3 ms and EIA-367-27<br/>random 100 to 1000 Hz - 1 g<sup>2</sup>/Hz<br/>45 N</p> | <ul style="list-style-type: none"><li>• Test voltage</li><li>• Contact resistance</li><li>• Insulation resistance</li><li>• Contact rating</li><li>• Shell continuity</li></ul> | <p>1300 Vrms (sea level)<br/>&lt;14.6 mΩ<br/>≥ 5000 MΩ (at 500 Vdc)<br/>5 A<br/>&lt;60 mΩ</p> |
|                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                             | Climatic                                                                                                                                                                        |                                                                                               |
|                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                             | <ul style="list-style-type: none"><li>• Temperature range</li><li>• Sealing mated connectors</li><li>• Salt spray</li></ul>                                                     | <p>-55°C to +175°C<br/>IP67 (1 metre for 30 min. minimum)<br/>48 hours</p>                    |

# 8TA Connector



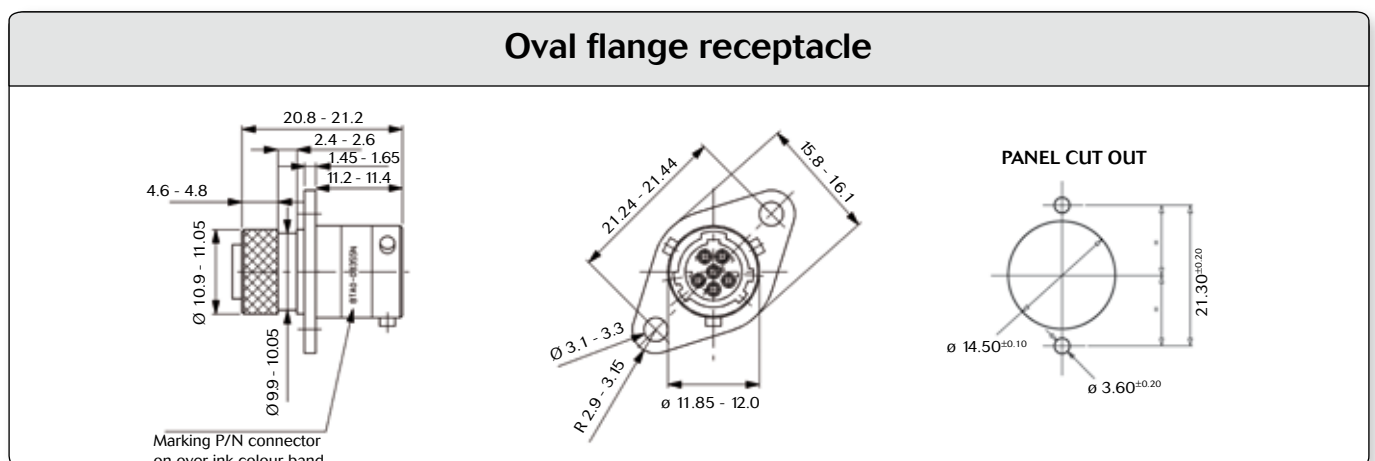
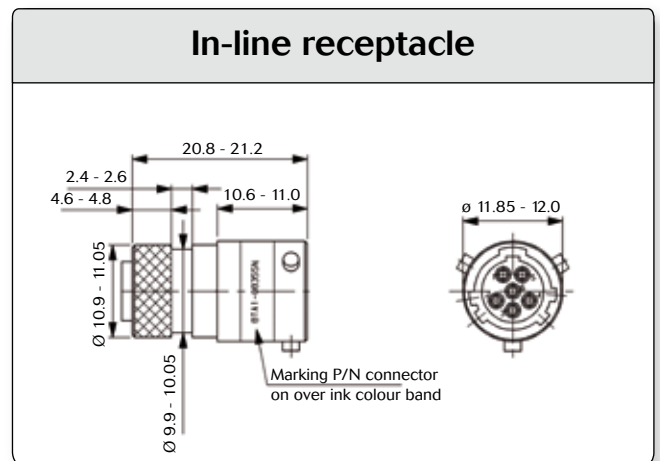
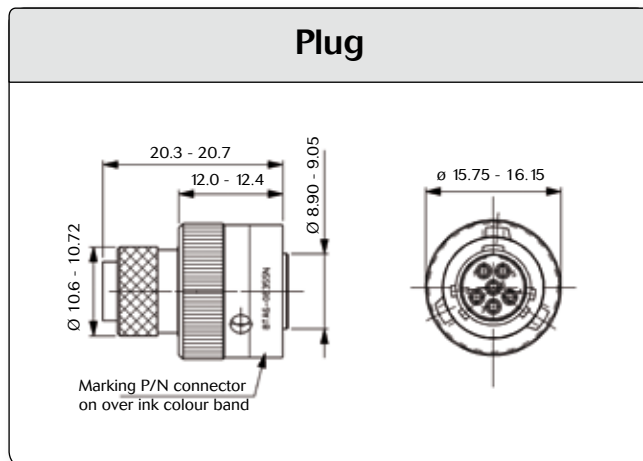
## How to order

|                 |                                                                                                                     |   |    |    |   |   |
|-----------------|---------------------------------------------------------------------------------------------------------------------|---|----|----|---|---|
| Basic series    | 8TA                                                                                                                 | 0 | 08 | 35 | P | N |
| Shell style     | 0: Oval flange receptacle (for front or rear mounting)<br>1: In-line receptacle<br>6: Plug<br>7: Jam nut receptacle |   |    |    |   |   |
| Shell size      | 08                                                                                                                  |   |    |    |   |   |
| Layout          | 35 (6 contacts size 22D)                                                                                            |   |    |    |   |   |
| Type of contact | P: Pin contacts<br>S: Socket contacts                                                                               |   |    |    |   |   |
| Orientation     | N: Red / A: Yellow / D: Green                                                                                       |   |    |    |   |   |

## Protective cap

|              |                                                        |   |    |
|--------------|--------------------------------------------------------|---|----|
| Basic series | 8TA                                                    | 8 | 08 |
| Shell style  | 8: Plug protective cap<br>9: Receptacle protective cap |   |    |
| Shell size   | 08                                                     |   |    |

## Range presentation



Note : all dimensions are in mm



# 8TA Connector

Jam nut receptacle

Technical drawing of a jam nut receptacle. The side view shows dimensions: 11.01 - 11.25, 2.19 - 2.59, 9.65 - 9.9, 11.85 - 12.0, 10.45 - 10.7, 4.8 - 4.9, 2.5 - 2.6, 2.5, and an O ring seal. The front view shows a hexagonal shape with dimensions: 31.4 - 32.1, 34.65 - 35.25, and 31.4 - 32.1. A 'Marking P/N connector on over ink colour band' is indicated. A 'PANEL CUT OUT' diagram shows a circular cutout with dimensions: 22.46<sup>+0.25</sup><sub>-0.25</sub> and 21.08<sup>+0.25</sup><sub>-0.25</sub>.

Grounded receptacle

Technical drawing of a grounded receptacle. The side view shows dimensions: 32 max., 8, 8, 13 max., and M8. The front view shows a hexagonal shape with a dimension of 18. A note states: 'Connecting interface compliant with 8TA0'. Below the drawing, it says: 'Please consult us for more information'.

Orientation

Diagrams showing key positions N, A, and D for the receptacle and plug. The receptacle diagrams show angles of 10°, 28°, 37°, and 100°. The plug diagrams show angles of 10°, 28°, 37°, and 100°.

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



# Accessories



## Nut plates



### Features & Benefits

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

| P/N          | Shell size | T (Thread) |
|--------------|------------|------------|
| 8STA-02 M2.5 | 02         | M2.5       |
| 8STA-02 M2.0 | 02         | M2         |
| 8STA-04      | 04         | M2         |
| 8STA-04 M2.5 | 04         | M2.5       |
| 8STA-06      | 06         | M2.5       |
| 8STA-08      | 08         | M3         |
| 8STA-10      | 10         |            |
| 8STA-12      | 12         |            |
| 8STA-14      | 14         |            |
| 8STA-16      | 16         |            |
| 8STA-18      | 18         |            |
| 8STA-20      | 20         |            |
| 8STA-22      | 22         |            |
| 8STA-24      | 24         |            |

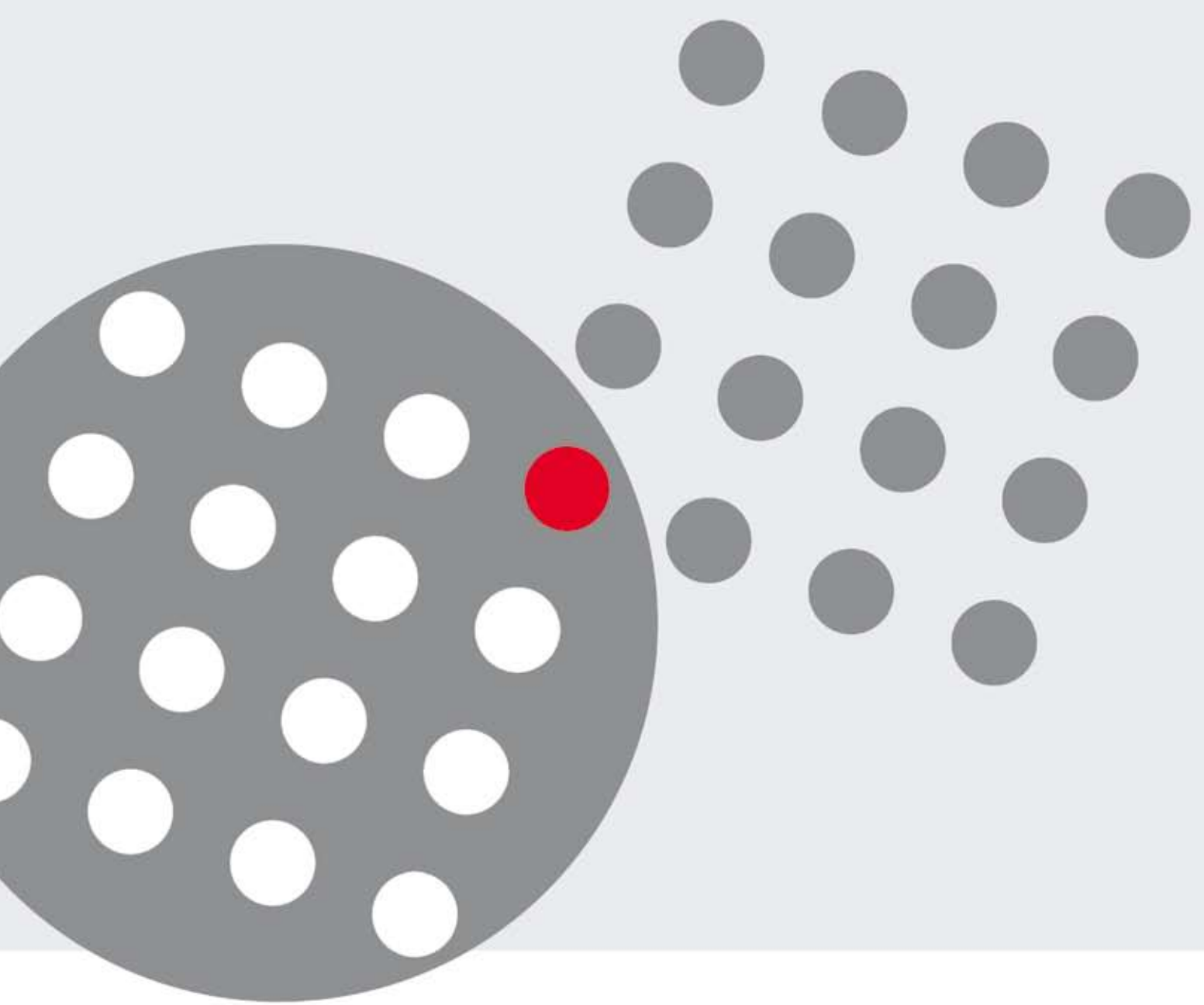
## Gaskets



### Features & Benefits

- Gaskets are available for all 8STA sizes (02 to 24)
- They are available in two versions:
  - Standard version: silicone
  - Fuel tank version: Fluorel
- Gaskets resist to all extreme conditions found in racing environment (temperature, vibration, fluids etc.)

| Shell size | P/N Standard | P/N Fuel tank |
|------------|--------------|---------------|
| 02         | 8STA-G02     | 8STA-G02 022  |
| 04         | 8STA-G04     | 8STA-G04 022  |
| 06         | 8STA-G06     | 8STA-G06 022  |
| 08         | 8STA-G08     | 8STA-G08 022  |
| 10         | 8STA-G10     | 8STA-G10 022  |
| 12         | 8STA-G12     | 8STA-G12 022  |
| 14         | 8STA-G14     | 8STA-G14 022  |
| 16         | 8STA-G16     | 8STA-G16 022  |
| 18         | 8STA-G18     | 8STA-G18 022  |
| 20         | 8STA-G20     | 8STA-G20 022  |
| 22         | 8STA-G22     | 8STA-G22 022  |
| 24         | 8STA-G24     | 8STA-G24 022  |



[www.souriau.com](http://www.souriau.com)  
[www.motorsport-connectors.com](http://www.motorsport-connectors.com)  
[contactindustry@souriau.com](mailto:contactindustry@souriau.com)

