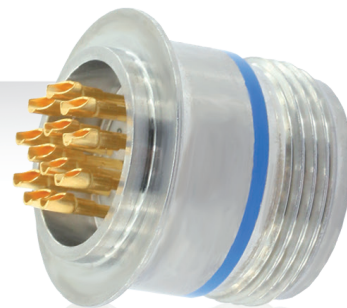




## High Temperature Fire Wall Connectors EN2997 / ESC Qualified





## Presentation

**MIL-DTL-83723 was designed to be a high temperature, high vibration withstanding connector, but had some important drawbacks:**

- Uncertain bottoming,
- Risk of unlocking under vibration,
- No torque specification,
- No scoop proof versions.

**To improve on these drawbacks, EN2997 standard includes:**

- 360° teeth enable additional backshell positions,
- Improved shielding resistance due to shell to shell bottoming,
- Additional barriers to leakage.
- Self locking mechanism on every plug allows a higher resistance to vibration,

**SOURIAU enhanced the standard definition with some additional features:**

- Thermoplastic material achieves a better insulation resistance and a high resistance to standard fire tests,
  - Qualified as per EN2997 for both stainless steel and aluminum versions,
- SOURIAU has one of the widest ranges on the market.**

**SOURIAU made these improvements to give our customers the best choice for procuring high performance connectors.**

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### Product Ranges

|                                    |    |
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# 853 SERIES

853 Series

# Overview

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## Typical applications



Power & Actuation



External lighting



Landing gear



Fuel Management



Sensors



Engines

## Features & Benefits

### FIRE WALL

#### High Temperature Connector

Resist up to 260°C (500°F).  
Flame test per EN 2591.

### SALT SPRAY

#### Excellent Corrosion Performances

Up to 500 hours salt spray.

### HIGH VIB

#### Upgraded Vibration Performances

Self locking coupling mechanism to resist the highest vibration encountered.

### EMI RFI

#### EMI & Lightning Resistance

Protection of the signal thanks to:

- . EMI grounding ring
- . Shell to shell bottoming
- . 360° rear accessory teeth

### EN2997 ESC

#### Qualified Product

Qualified per ASD Cert EN2997 and ESC Standards.  
MIL-83723 Series III based design, including additional features, to respond to today's aircraft's harshest needs.

## Product overview

### Scoop Proof

See page 24



- ▶ For blind mate connection.
- ▶ ESC11 qualified.

### Integrated Backshell

See page 28



- ▶ For weight saving solutions.
- ▶ ESC15 and ESC16 qualified.

### Standard version

See page 16



### Quadrax & Power Contacts

See page 33



- ▶ Quadrax contacts for high speed ethernet network.
- ▶ Power contacts for high power current under temperature and vibration constraints.
- ▶ ABS qualified solution.

### Hermetic version

See page 36



- ▶ For hermetic interface or space constrained application.
- ▶ Leak rate  $< 10^{-7}$  atm.cm<sup>3</sup>/s.
- ▶ Solder cup & PC Tail contacts.

## Available configurations

| T° class          | Salt spray | Shell material & plating    | Integrated backshell | Scoop proof | Clinch nuts | Hermetic | High vibration                                | Plug with RFI screening ring                | Plug without screening ring                               | Square flange receptacle         | Jam nut receptacle               | Solder mount receptacle |      |       |
|-------------------|------------|-----------------------------|----------------------|-------------|-------------|----------|-----------------------------------------------|---------------------------------------------|-----------------------------------------------------------|----------------------------------|----------------------------------|-------------------------|------|-------|
| From your need... |            |                             |                      |             |             |          |                                               | ... to our solution                         |                                                           |                                  |                                  |                         | RoHS | REACH |
| 175°C             | 500H       | Aluminum olive drab cadmium |                      |             |             |          | 85333W<br>EN2997WS6                           | 85334W<br>EN2997W6                          | 85330W<br>EN2997WS0                                       | 85337W<br>EN2997WS7              | -                                |                         |      |       |
|                   |            |                             | Yes                  |             |             |          | EN2997WSC*                                    | -                                           | EN2997WSA*                                                | -                                | -                                |                         | Yes  | Yes   |
| 200°C             | 48H        | Aluminum nickel             |                      |             |             |          | 85333R<br>EN2997RS6                           | 85334R<br>EN2997R6                          | 85330R<br>EN2997RS0                                       | 85337R<br>EN2997RS7              | -                                |                         | Yes  | Yes   |
|                   |            |                             | Yes                  |             |             |          | EN2997RSC*                                    | -                                           | EN2997RSA*                                                | -                                | -                                |                         | Yes  | Yes   |
|                   | 500H       | Aluminum black anodized     |                      |             |             |          | -                                             | 85334A                                      | 85330A                                                    | 85337A                           | -                                |                         | Yes  | Yes   |
|                   |            |                             |                      |             |             |          | 85333K<br>EN2997S6                            | 85334K<br>EN2997K6                          | 85330K<br>EN2997S0                                        | 85337K<br>EN2997S7               | -                                |                         | Yes  | Yes   |
|                   |            | Stainless steel             |                      |             |             | Yes      | -                                             | -                                           | 85332Y<br>EN2997Y0                                        | 85337Y<br>EN2997Y7               | 85331Y<br>EN2997Y1               |                         | Yes  | Yes   |
|                   |            |                             | Yes                  |             |             |          | 85353KS<br>EN2997SC                           | -                                           | 85350KS<br>EN2997SA                                       | -                                | -                                |                         | Yes  | Yes   |
| 260°C             | 500H       | Stainless steel             | Yes                  |             | Yes         |          | -                                             | -                                           | 85355KS*<br>EN2997SD*                                     | -                                | -                                |                         | Yes  | Yes   |
|                   |            |                             |                      |             |             |          | 85333E<br>EN2997SE6<br>ESC10SE6<br>BACC63CM** | 85334E<br>EN2997KE6<br>ESC10KE6             | 85330E<br>EN2997SE0<br>ESC10KE0<br>ESC10SE0<br>BACC63CN** | 85337E<br>EN2997SE7              | -                                |                         | Yes  | Yes   |
|                   |            |                             |                      |             | Yes         |          | -                                             | -                                           | 85332YE<br>EN2997YE0<br>ESC10YE2                          | 85337YE<br>EN2997YE7<br>ESC10YE3 | 85331YE<br>EN2997YE1<br>ESC10YE1 |                         | Yes  | Yes   |
|                   |            |                             |                      | Yes         |             |          | 85346SE<br>ESC11SE6                           | 85346KE<br>ESC11KE6                         | 85340SE<br>ESC11SE0<br>ESC11KE0                           | -                                | -                                |                         | Yes  | Yes   |
|                   |            |                             | Yes                  |             |             |          | 8535CES<br>85353ES<br>EN2997SEC<br>ESC15SE7   | 8535EES<br>85354ES<br>EN2997KEC<br>ESC15KE7 | 8535AES<br>85350ES<br>EN2997SEA<br>ESC15KE2               | -                                | -                                |                         | Yes  | Yes   |
|                   |            |                             | Yes                  |             |             | Yes      | 85353KV<br>EN2997SVC*                         | 85354KV<br>EN2997KVC<br>ESC15KV7            | 85350KV<br>EN2997SVA*<br>ESC15KV2*                        | -                                | -                                |                         | Yes  | Yes   |
|                   |            |                             | Yes                  |             | Yes         | Yes      | -                                             | -                                           | 85355KV<br>EN2997SVD*<br>ESC15KV4                         | -                                | -                                |                         | Yes  | Yes   |
|                   |            |                             | Yes                  |             | Yes         |          | -                                             | -                                           | 8535DES*<br>85355ES*<br>EN2997SED*<br>ESC15KE4*           | -                                | -                                |                         | Yes  | Yes   |
|                   |            |                             | Yes                  | Yes         |             |          | 85363ES<br>ESC16SE7                           | 85364ES<br>ESC16KE7                         | 85360ES<br>ESC16KE2                                       | -                                | -                                |                         | Yes  | Yes   |
|                   |            |                             | Yes                  | Yes         |             | Yes      | -                                             | 85364KV<br>ESC16KV7                         | ESC16KV2*                                                 | -                                | -                                |                         | Yes  | Yes   |
|                   |            |                             | Yes                  | Yes         | Yes         | Yes      | -                                             | -                                           | 85365KV<br>ESC16KV4                                       | -                                | -                                |                         | Yes  | Yes   |

\* Please consult us. \*\*Only delivered without contact.

## Contact layouts 8533/8535 Series



### Connector type

- ▲ Class 200°C    ■ Classes 200°C & 260°C
- Hermetic 200°C & 260°C (8533 only)
- ☒ Fuel tank    ○ 8533 only (ABS)

\* Quadrax layout only,  
#8 Quadrax contact compatible with #6 cavity.

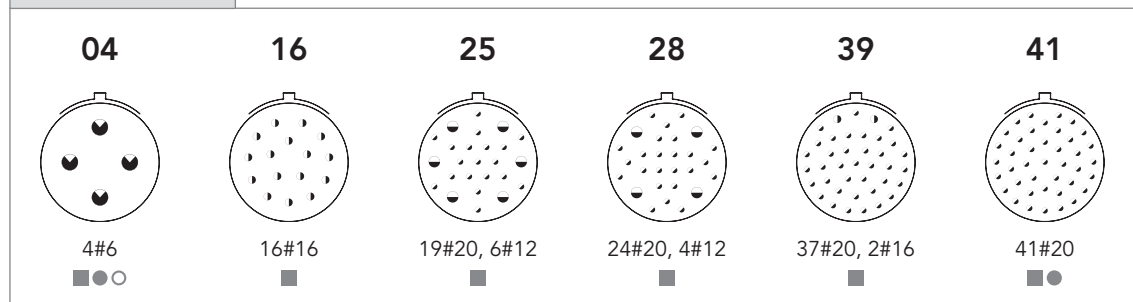
### Contact size

- Contact #20    ● Contact #8 quadrax & Contact #6 power
- Contact #16    ● Contact #4 power
- Contact #12

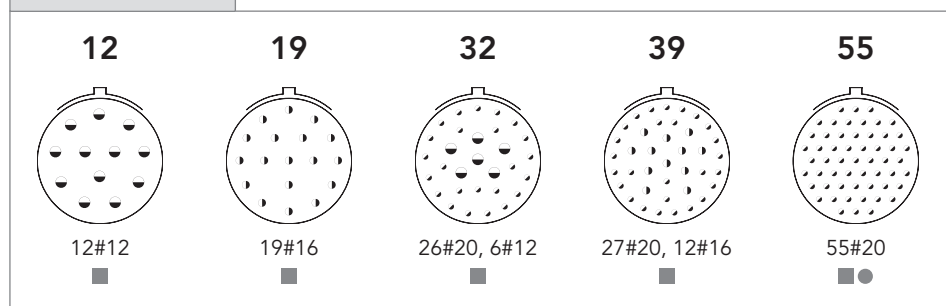
Coordinates information: please consult us.

## Contact layouts 8533/8535 Series

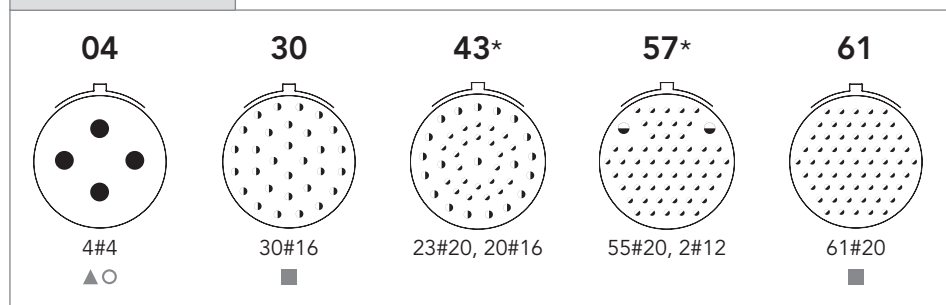
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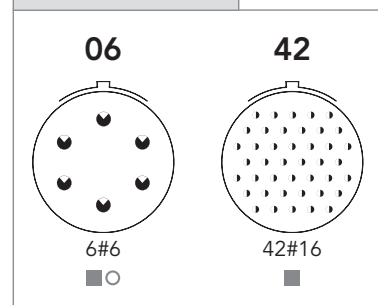
22



24



28



### Connector type

- ▲ Class 200°C
- Classes 200°C & 260°C
- Hermetic 200°C & 260°C (8533 only)
- ⊠ Fuel tank
- 8533 only (ABS)

\* Please consult us.

### Contact size

- Contact #20
- Contact #16
- Contact #12
- Contact #8 quadax & Contact #6 power
- Contact #4 power

Coordinates information: please consult us.

## Contact layouts 8534/8536 Series



### Connector type

- ▲ Class 200°C    ■ Classes 200°C & 260°C
- Hermetic 200°C & 260°C (8533 only)
- ☒ Fuel tank    ○ 8533 only (ABS)

### Contact size

- Contact #20    ● Contact #8 quadrax & Contact #6 power
- Contact #16    ● Contact #4 power
- Contact #12

Coordinates information: please consult us.

## Contact layouts (matrix)

| Shell size | Layout | 8533 | EN2997           | ESC10 | ABS Power & Quadrax | 8533 hermetic | EN2997 hermetic | 8533 spec. 022 | ESC10 hermetic | 8535 | ESC15 | 8534 8536 | ESC11 ESC16 | Number of contacts |     |     |    |    |    |
|------------|--------|------|------------------|-------|---------------------|---------------|-----------------|----------------|----------------|------|-------|-----------|-------------|--------------------|-----|-----|----|----|----|
|            |        |      |                  |       |                     |               |                 |                |                |      |       |           |             | #20                | #16 | #12 | #8 | #6 | #4 |
| 08         | 08-01  | Yes  |                  |       | Yes <sup>(2)</sup>  |               |                 |                |                |      |       |           |             |                    |     |     | 1  |    |    |
|            | 08-03  | Yes  | Q                | Q     |                     | Yes           | Q               | Yes            | Q              | Yes  | Q     |           |             | 3                  |     |     |    |    |    |
|            | 08-98  | Yes  | Q                | Q     |                     | Yes           | Q               |                | Q              | Yes  | Q     |           |             | 3                  |     |     |    |    |    |
| 10         | 10-02  | Yes  |                  |       |                     |               |                 |                |                | Yes  |       |           |             | 2                  |     |     |    |    |    |
|            | 10-05  | Yes  | Q                | Q     |                     | Yes           | Q               |                | Q              | Yes  | Q     |           |             | 5                  |     |     |    |    |    |
|            | 10-06  | Yes  | Q                |       |                     | Yes           | Q               |                |                | Yes  | Q     |           |             | 6                  |     |     |    |    |    |
| 12         | 12-03  | Yes  | Q                | Q     |                     | Yes           | Q               |                | Q              | Yes  | Q     |           |             |                    | 3   |     |    |    |    |
|            | 12-12  | Yes  | Q                | Q     |                     | Yes           | Q               | Yes            | Q              | Yes  | Q     |           |             | 12                 |     |     |    |    |    |
| 14         | 14-04  | Yes  | Q                | Q     |                     | Yes           | Q               |                | Q              | Yes  | Q     |           |             |                    |     | 4   |    |    |    |
|            | 14-07  | Yes  | Q                | Q     |                     | Yes           | Q               |                | Q              | Yes  | Q     |           |             |                    | 7   |     |    |    |    |
|            | 14-12  | Yes  | Q                |       |                     |               |                 |                |                | Yes  |       |           |             | 9                  | 3   |     |    |    |    |
|            | 14-15  | Yes  | Q                | Q     |                     | Yes           | Q               |                | Q              | Yes  | Q     | Yes       | Q           | 15                 |     |     |    |    |    |
| 16         | 16-10  | Yes  | Q                | Q     |                     | Yes           | Q               |                | Q              | Yes  | Q     |           |             |                    | 10  |     |    |    |    |
|            | 16-24  | Yes  | Q                | Q     |                     | Yes           | Q               |                | Q              | Yes  | Q     | Yes       | Q           | 24                 |     |     |    |    |    |
| 18         | 18-02  | Yes  |                  |       | Yes                 |               |                 |                |                |      |       |           |             |                    |     |     |    | 2  |    |
|            | 18-08  | Yes  | Q                | Q     |                     |               |                 |                |                | Yes  |       |           |             |                    |     | 8   |    |    |    |
|            | 18-14  | Yes  | Q                | Q     |                     |               |                 |                |                | Yes  | Q     |           |             |                    | 14  |     |    |    |    |
|            | 18-31  | Yes  | Q                | Q     |                     | Yes           | Q               |                | Q              | Yes  | Q     | Yes       | Q           | 31                 |     |     |    |    |    |
| 20         | 20-04  | Yes  |                  |       | Yes                 | Yes           |                 |                |                |      |       |           |             |                    |     |     |    | 4  |    |
|            | 20-16  | Yes  | Q                |       |                     |               |                 |                |                | Yes  |       |           |             |                    | 16  |     |    |    |    |
|            | 20-25  | Yes  | Q                |       |                     |               |                 |                |                | Yes  |       |           |             | 19                 |     | 6   |    |    |    |
|            | 20-28  | Yes  | Q                |       |                     |               |                 |                |                | Yes  |       |           |             | 24                 |     | 4   |    |    |    |
|            | 20-39  | Yes  | Q                | Q     |                     |               |                 |                |                | Yes  | Q     | Yes       | Q           | 37                 | 2   |     |    |    |    |
|            | 20-41  | Yes  | Q                | Q     |                     | Yes           | Q               | Yes            | Q              | Yes  | Q     | Yes       | Q           | 41                 |     |     |    |    |    |
| 22         | 22-12  | Yes  | Q                | Q     |                     |               |                 |                | Q              | Yes  |       |           |             |                    |     | 12  |    |    |    |
|            | 22-19  | Yes  | Q                | Q     |                     |               |                 |                | Q              | Yes  | Q     |           |             |                    | 19  |     |    |    |    |
|            | 22-32  | Yes  | Q                |       |                     |               |                 |                |                | Yes  |       |           |             | 26                 |     | 6   |    |    |    |
|            | 22-39  | Yes  | Q                |       |                     |               |                 |                |                | Yes  |       |           |             | 27                 | 12  |     |    |    |    |
|            | 22-55  | Yes  | Q                | Q     |                     | Yes           | Q               |                | Q              | Yes  | Q     | Yes       | Q           | 55                 |     |     |    |    |    |
| 24         | 24-04  | Yes  |                  |       | Yes                 |               |                 |                |                |      |       |           |             |                    |     |     |    |    | 4  |
|            | 24-30  | Yes  | Q                | Q     |                     |               |                 |                |                | Yes  | Q     |           |             |                    | 30  |     |    |    |    |
|            | 24-43  | Yes  |                  |       |                     |               |                 |                |                | Yes  |       |           |             | 23                 | 20  |     |    |    |    |
|            | 24-57  | Yes  |                  |       |                     |               |                 |                |                | Yes  |       |           |             | 55                 |     | 2   |    |    |    |
|            | 24-61  | Yes  | Q                | Q     |                     |               |                 |                | Q              | Yes  | Q     | Yes       | Q           | 61                 |     |     |    |    |    |
| 28         | 28-06  | Yes  |                  |       | Yes                 |               |                 |                |                |      |       |           |             |                    |     |     |    | 6  |    |
|            | 28-42  | Yes  | Q <sup>(1)</sup> | Q     |                     |               |                 |                |                | Yes  | Q     |           |             |                    | 42  |     |    |    |    |

Yes SOURIAU's layout

Q SOURIAU's layout &amp; Layout according to corresponding norm

(1) Only developed for square flange receptacle all classes and stainless steel plug (for other configuration, please consult us)

(2) Quadrax contact only

# 853 SERIES

## 853 Series

# Product Ranges

|                                                         |    |
|---------------------------------------------------------|----|
| ■ 8533 Series - Standard version .....                  | 16 |
| ■ 8534 Series - Scoop proof version .....               | 24 |
| ■ 8535/8536 Series - Integrated backshell version ..... | 28 |
| ■ 8533 Series - Power & Quadrax version .....           | 33 |
| ■ 8533 Series - Hermetic version .....                  | 36 |

## Description

- Stainless steel screw coupling connector derived from MIL-C-83723 & designed for use in harsh aviation environments:
  - . high vibration resistance
  - . high temperature resistance (up to 260°C)
  - . Fireproof (1100°C)
- Qualified to EN2997 standard and to ESC10 standard
- Large array of crimp contacts, EN3155 and ESC30 qualified:
  - . size 12, 16 & 20 standard contacts
  - . size 12, 16 & 20 thermocouple contacts for temperature measurement
- Fuel immersion version available

## Technical features

### Mechanical

- **Shell:**
  - . aluminum alloy (class R, W and A)
  - . stainless steel (class K and E)
- **Plating:**
  - . nickel (class R)
  - . olive green cadmium (class W)
  - . black anodized (class A)
  - . passivated (class K and E)
- **Grommet and seal:**
  - . silicone elastomer
- **Insulator:**
  - . thermoplastic
- **Contact body:**
  - . copper alloy
- **Contact plating:**
  - . gold over nickel
- **Contact retention:**
  - . size 20: 90 N
  - . size 16: 110 N
  - . size 12: 130 N
- **Mating cycles:**
  - . 250 mating cycles (class R, W and A)
  - . 500 mating cycles (class K and E)
- **Shock:**
  - . 300 m/s<sup>2</sup> (30g) during 3 ms
- **Vibration:**
  - . random 5 Hz to 2000 Hz at 1G<sup>2</sup>/Hz (2 x 8 hours)

### Electrical

- **Dielectric withstanding:**

| Altitude  | Service I |
|-----------|-----------|
| Sea level | 1500 Vrms |
| 15 000 m  | 600 Vrms  |
| 21 000 m  | 400 Vrms  |
| 33 000 m  | 200 Vrms  |
- **Contact resistance:**
  - . initial contact resistance at ambient temperature as per EN 2997 and EN3155

| Contact size  | 20  | 16  | 12  |
|---------------|-----|-----|-----|
| Resistance mΩ | 7.3 | 3.8 | 3.5 |
- **Insulation resistance:**
  - . 5000 MΩ at 500 Vdc
- **Max current rating per contact:**

| Contact size | 20  | 16 | 12 |
|--------------|-----|----|----|
| Rating (A)   | 7.3 | 13 | 23 |
- **Electrical continuity:**
  - . 5 mΩ max with RFI shielding
  - . 60 mΩ without RFI shielding
- **Shielding:**
  - . to 100 MHz at 1 GHz attenuation 65 dB
- **Lightning strike (3K & 3E classes):**
  - . 15A according D0160, wave 5A

### Environmental

- **Operating temperature:**
  - . class W: -65° to +175°C (-149° to +347°F)
  - . class R, A and K: -65° to +200°C (-149° to +392°F)
  - . class E: -65° to +260°C (-149° to +500°F)
  - . fuel tank long term immersion version specification 22 limited to +105°C max
- **Leakage:**
  - . as per 2591-312:
    - Method B differential pressure: 100kPa
    - Maximum leakage flow: 16x10<sup>-6</sup> m<sup>3</sup>/h
- **Salt spray:**
  - . 48 hours (class R)
  - . 500 hours (class W, K, E and A)
- **Resistance to fluids:**
  - . MIL-H 5606 - SKYDROL 500 B4 - LD4 - JP5 - MIL-L 7870A - MIL-L 23699 - MIL-L 7808 - MIL-C 25769 - MIL-A 8243
- **Fire resistance:**
  - . as per EN 2591-318:
    - 6 min under a 1100°C flame without electrical perturbation, plus 14 min with no flame propagation (ES class)

### Fuel resistance

- **Standard version:**
  - . as per EN2997
- **Long term immersion (specification 22):**
  - . as per PrEN3645 3 cycles of 96 hours in fuel

## Ordering information

### Standards connectors - SOURIAU part numbers

| Basic Series                                                                                                                                                                                                                                                                           | 8533 | 0 | R | S | 14 | 15 | P | N | - |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---|---|---|----|----|---|---|---|
| <b>Shell type:</b><br>0: Square flange receptacle<br>3: Plug with RFI screening ring<br>4: Plug without RFI screening ring<br>7: Jam nut receptacle                                                                                                                                    |      |   |   |   |    |    |   |   |   |
| <b>Class:</b><br>W: 175°C aluminum olive drab cadmium conductive plating<br>R: 200°C aluminum nickel conductive plating<br>A: 200°C aluminum black anodized non conductive plating<br>K: 200°C stainless steel<br>E: 260°C stainless steel<br>S: With 360° teeth                       |      |   |   |   |    |    |   |   |   |
| <b>Shell size:</b> 08, 10, 12, 14, 16, 18, 20, 22, 24, 28                                                                                                                                                                                                                              |      |   |   |   |    |    |   |   |   |
| <b>Contact layout:</b> See page 10                                                                                                                                                                                                                                                     |      |   |   |   |    |    |   |   |   |
| <b>Contact type:</b><br>P: Pin<br>S: Socket                                                                                                                                                                                                                                            |      |   |   |   |    |    |   |   |   |
| <b>Orientation:</b> N, 6, 7, 8, 9, Y (see page 20)                                                                                                                                                                                                                                     |      |   |   |   |    |    |   |   |   |
| <b>Specification:</b><br>None: Connector supplied with standard contacts<br>L: Connector supplied without contact<br>08: Connector supplied with large barrel contacts<br>22: Fuel immersion version<br>68: Connector supplied with contacts #20 large barrel and standard contact #16 |      |   |   |   |    |    |   |   |   |

### EN2997 Qualified products

| Basic Series                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | EN2997 | RS0 | 14 | 15 | M | N |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-----|----|----|---|---|
| <b>Class &amp; Shell type:</b><br><b>Plug without RFI shielding ring:</b><br>W6: 175°C Aluminum olive-green cadmium plating, conductive finish<br>R6: 200°C Aluminum nickel conductive plating<br>K6: 200°C Stainless steel<br>KE6: 260°C Stainless steel<br><b>Plug with RFI shielding ring:</b><br>WS6: 175°C Aluminum olive-green cadmium, conductive plating<br>RS6: 200°C Aluminum nickel, conductive plating<br>S6: 200°C Stainless steel<br>SE6: 260°C Stainless steel<br><b>Square flange receptacle:</b><br>WS0: 175°C Aluminum olive-green cadmium, conductive plating<br>RS0: 200°C Aluminum nickel, conductive plating<br>S0: 200°C Stainless steel<br>SE0: 260°C Stainless steel<br><b>Jam nut receptacle:</b><br>WS7: 175°C Aluminum olive-green cadmium, conductive plating<br>RS7: 200°C Aluminum nickel, conductive plating<br>S7: 200°C Stainless steel<br>SE7: 260°C Stainless steel |        |     |    |    |   |   |
| <b>Shell size:</b> 08, 10, 12, 14, 16, 18, 20, 22, 24, 28                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |        |     |    |    |   |   |
| <b>Contact layout:</b> See page 10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |        |     |    |    |   |   |
| <b>Contact type:</b><br>M: Male contact<br>A: Connector delivered without male contact<br>C: Connector delivered with male contact #20 large barrel<br>F: Female contact<br>B: Connector delivered without female contact<br>D: Connector delivered with female contact #20 large barrel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |        |     |    |    |   |   |
| <b>Orientation:</b> N, 6, 7, 8, 9, Y (see page 20)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |        |     |    |    |   |   |

## ESC10 Qualified products

|                                                                                                                                                                                                     |       |    |   |    |    |   |   |   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|----|---|----|----|---|---|---|
| Basic Series                                                                                                                                                                                        | ESC10 | KE | 0 | 10 | 05 | P | N | 0 |
| <b>Shell type:</b><br><b>KE:</b> 260°C stainless steel: standard receptacle; plug without RFI screening ring<br><b>SE:</b> 260°C stainless steel: standard receptacle; plug with RFI screening ring |       |    |   |    |    |   |   |   |
| <b>Shell type:</b><br><b>0:</b> Square flange receptacle<br><b>6:</b> Plug                                                                                                                          |       |    |   |    |    |   |   |   |
| <b>Shell size: 08, 10, 12, 14, 16, 18, 20, 22, 24, 28</b>                                                                                                                                           |       |    |   |    |    |   |   |   |
| <b>Contact layout:</b> See page 13 for layouts according to ESC10                                                                                                                                   |       |    |   |    |    |   |   |   |
| <b>Contact type:</b><br><b>P:</b> Pin <b>S:</b> Socket                                                                                                                                              |       |    |   |    |    |   |   |   |
| <b>Orientation:</b> N, 6, 7, 8, 9, Y (see page 20)                                                                                                                                                  |       |    |   |    |    |   |   |   |
| <b>Variant identifier:</b><br><b>0:</b> Standard connector delivered without contact                                                                                                                |       |    |   |    |    |   |   |   |

## Connector weight Mass max. (g) less contact

| Shell size | Square flange   |          | Jam nut         |          | Plug            |          |
|------------|-----------------|----------|-----------------|----------|-----------------|----------|
|            | Stainless steel | Aluminum | Stainless steel | Aluminum | Stainless steel | Aluminum |
| 08         | 19              | 11       | 32              | 15       | 31              | 14       |
| 10         | 28              | 16       | 41              | 21       | 44              | 21       |
| 12         | 39              | 27       | 58              | 30       | 57              | 26       |
| 14         | 51              | 30       | 68              | 35       | 72              | 38       |
| 16         | 62              | 34       | 82              | 46       | 82              | 39       |
| 18         | 73              | 36       | 88              | 51       | 95              | 43       |
| 20         | 82              | 40       | 100             | 56       | 108             | 48       |
| 22         | 90              | 51       | 123             | 69       | 121             | 65       |
| 24         | 105             | 58       | 137             | 82       | 134             | 67       |
| 28         | 126             | 88       | 191             | 120      | 160             | 103      |

## Mass of crimp contacts

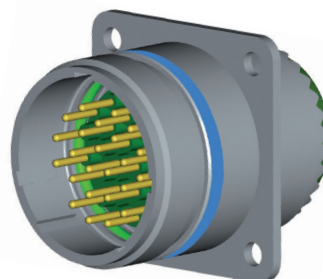
| Contact size | Mass (g) |        |
|--------------|----------|--------|
|              | Pin      | Socket |
| 20           | 0.24     | 0.29   |
| 16           | 0.53     | 0.59   |
| 12           | 1.15     | 1.28   |
| 6            | 3.6      | 4.8    |
| 4            | 7.3      | 8.5    |

## Dimensions

| Plug       |                   |                    |                    |                    |                  |                       |                       |                       |                       |                      |
|------------|-------------------|--------------------|--------------------|--------------------|------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------------|
|            |                   |                    |                    |                    |                  |                       |                       |                       |                       |                      |
| Shell size | 08                | 10                 | 12                 | 14                 | 16               | 18                    | 20                    | 22                    | 24                    | 28                   |
| A Max      | 21.30             | 24.90              | 29.60              | 31.24              | 34.42            | 37.34                 | 41.91                 | 44.07                 | 47.24                 | 55.24                |
| B Thread   | 1/2"-20<br>UNF 2A | 5/8"-24<br>UNEF 2A | 3/4"-20<br>UNEF 2A | 7/8"-20<br>UNEF 2A | 1"-20<br>UNEF 2A | 1-1/16"-18<br>UNEF 2A | 1-3/16"-18<br>UNEF 2A | 1-5/16"-18<br>UNEF 2A | 1-7/16"-18<br>UNEF 2A | 1-3/4"-18<br>UNEF 2A |

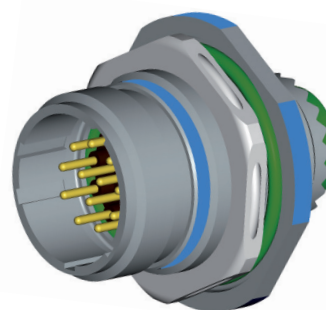
Note: All dimensions are in millimeters (mm)

## Square flange receptacle



| Shell size | 08        | 10    | 12    | 14    | 16    | 18    | 20    | 22    | 24        | 28    |
|------------|-----------|-------|-------|-------|-------|-------|-------|-------|-----------|-------|
| A Max      | 14.27     | 17.67 | 22.22 | 23.77 | 26.97 | 30.15 | 33.32 | 36.49 | 39.67     | 46.02 |
| B Max      | 12.7      | 15.88 | 19.05 | 22.23 | 25.40 | 26.97 | 30.18 | 33.32 | 36.53     | 44.45 |
| C Max      | 20.75     | 23.93 | 26.32 | 28.71 | 31.88 | 34.24 | 36.63 | 39.80 | 43.39     | 50.93 |
| D          | 15.09     | 18.26 | 20.62 | 23.01 | 24.61 | 26.97 | 29.36 | 31.75 | 34.92     | 39.67 |
| E          | 3.10/3.30 |       |       |       |       |       |       |       | 3.68/3.91 |       |

## Jam nut receptacle

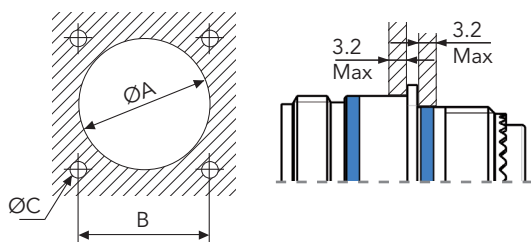


| Shell size | 08    | 10    | 12    | 14    | 16    | 18    | 20    | 22    | 24    |
|------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| A Max      | 14.27 | 17.67 | 22.22 | 23.77 | 26.97 | 30.15 | 33.32 | 36.49 | 39.67 |
| B Max      | 19.84 | 19.84 | 19.84 | 19.84 | 19.84 | 19.84 | 19.84 | 19.84 | 19.84 |
| C Max      | 27.38 | 30.28 | 35.05 | 38.51 | 41.68 | 44.86 | 49.63 | 52.78 | 55.42 |
| D Max      | 24.89 | 28.04 | 32.79 | 35.33 | 38.51 | 41.68 | 44.86 | 49.63 | 52.81 |

Note: All dimensions are in millimeters (mm)

## Panel cut out

Type 0  
Square flange receptacle

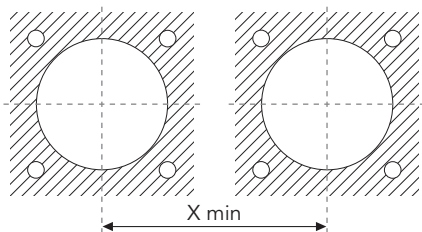


Type 7  
Jam nut receptacle



| Shell size | 8     | 10    | 12    | 14    | 16    | 18    | 20    | 22    | 24    | 28    |
|------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| A min      | 15.8  | 18.7  | 23.4  | 24.9  | 28.3  | 31.1  | 34.5  | 37.5  | 40.6  | 48    |
| B          | 15.09 | 18.26 | 20.62 | 23.01 | 24.61 | 26.97 | 39.36 | 31.75 | 34.92 | 39.67 |
| C          | 3.2   |       |       |       |       |       |       |       | 3.8   |       |
| D Min      | 16.00 | 19.17 | 23.92 | 25.52 | 28.70 | 31.87 | 35.05 | 38.22 | 41.40 | -     |
| E Min      | 15.24 | 18.41 | 23.16 | 24.76 | 27.94 | 30.99 | 34.16 | 37.33 | 40.51 | -     |

## Minimum space between square flange or jam nut receptacles

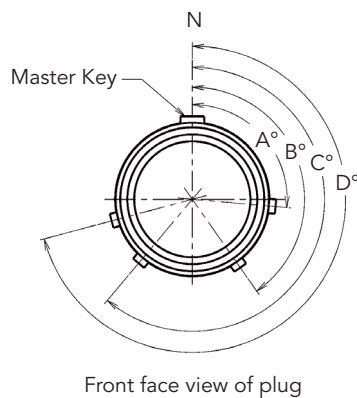


| Shell size            | 8     | 10    | 12    | 14    | 16    | 18    | 20    | 22    | 24    | 28    |
|-----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Y min<br>(norm value) | 31.70 | 34.90 | 39.60 | 41.25 | 44.45 | 47.35 | 51.90 | 54.10 | 57.25 | 65.25 |

$$X \text{ min} = Y/2 (\text{connector one}) + Y/2 (\text{connector two})$$

Example of minimum space between a connector size 8 and a connector size 14:  
 $X \text{ min} = 31.70/2 + 41.25/2 = 36.475 \text{ mm}$

## Orientation



| Shell size | Angles | N   | 6   | 7   | 8   | 9   | Y   |
|------------|--------|-----|-----|-----|-----|-----|-----|
| 08         | A°     | 105 | 102 | 80  | 35  | 64  | -   |
|            | B°     | 140 | 132 | 118 | 140 | 155 |     |
|            | C°     | 215 | 248 | 230 | 205 | 234 |     |
|            | D°     | 265 | 320 | 312 | 275 | 304 |     |
| 10         | A°     | 105 | 102 | 80  | 35  | 64  | 25  |
|            | B°     | 140 | 132 | 118 | 140 | 155 | 115 |
|            | C°     | 215 | 248 | 230 | 205 | 234 | 220 |
|            | D°     | 265 | 320 | 312 | 275 | 304 | 270 |
| 12 to 28   | A°     | 105 | 18  | 92  | 84  | 24  | 98  |
|            | B°     | 140 | 149 | 152 | 152 | 135 | 152 |
|            | C°     | 215 | 192 | 222 | 204 | 199 | 268 |
|            | D°     | 265 | 259 | 342 | 334 | 240 | 338 |

Note: All dimensions are in millimeters (mm)

## Backshells

## Aluminum shrink boot adapters

Shrink boot adapter  
(removable) Type 60-1Shrink boot adapter  
(non removable) Type 60-2G

Basic series M85049/ 60-1 W 10

## Backshell type:

60-1: Shrink boot adapter

60-2G: Shrink boot adapter

## Plating:

A: Black anodized

N: Nickel

W: Olive green cadmium

## Shell size:

08, 10, 12, 14, 16, 18, 20, 22, 24, 28

| Shell size | A Max | B Min | C Max | D Max | E Max | F Max | G Max |
|------------|-------|-------|-------|-------|-------|-------|-------|
| 08         | 15.67 | 6.35  | 13.54 | 21.13 | 16.69 | 13.72 | 17.48 |
| 10         | 18.64 | 9.02  | 15.37 | 21.13 | 19.66 | 13.72 | 20.4  |
| 12         | 21.79 | 12.47 | 19.66 | 21.13 | 22.81 | 13.72 | 23.83 |
| 14         | 24.99 | 14.35 | 21.29 | 21.13 | 26.01 | 13.72 | 27.0  |
| 16         | 28.24 | 17.53 | 24.46 | 21.13 | 29.26 | 13.72 | 31.45 |

| Shell size | A Max | B Min | C Max | D Max | E Max | F Max | G Max |
|------------|-------|-------|-------|-------|-------|-------|-------|
| 18         | 30.94 | 19.53 | 26.47 | 21.13 | 31.57 | 13.72 | 33.27 |
| 20         | 34.16 | 22.71 | 30.91 | 21.13 | 34.8  | 13.72 | 36.47 |
| 22         | 37.29 | 25.88 | 34.42 | 21.13 | 36.65 | 13.72 | 39.62 |
| 24         | 40.46 | 28.80 | 36.65 | 21.13 | 41.10 | 13.72 | 42.82 |
| 28         | 50.01 | 34.77 | 43.41 | 25.25 | 50.01 | 17.83 | 52.37 |

## Aluminum plastic collar

Straight plastic collar Type 53



45° plastic collar Type 54



90° plastic collar Type 55



Basic series M85049/ 55 - 10 A

## Backshell type:

53: Straight plastic collar

54: 45° plastic collar

55: 90° plastic collar

## Configuration (55 type only):

-: Standard without self-locking

S: Self-locking

G: Self locking with grounding lug

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

## Plating:

A: Black anodized

W: Olive green cadmium

| Shell size | A Max | B Max | C     | D Max | E Max |
|------------|-------|-------|-------|-------|-------|
| 08         | 15.67 | 24.23 | 6.60  | 31.29 | 16.68 |
| 10         | 18.64 | 24.23 | 9.27  | 31.29 | 19.86 |
| 12         | 21.79 | 24.23 | 12.73 | 31.29 | 23.79 |
| 14         | 24.99 | 30.58 | 14.60 | 31.29 | 26.67 |
| 16         | 28.24 | 30.58 | 17.78 | 31.29 | 31.47 |

| Shell size | A Max | B Max | C     | D Max | E Max |
|------------|-------|-------|-------|-------|-------|
| 18         | 30.94 | 30.58 | 19.79 | 31.29 | 35.00 |
| 20         | 34.16 | 33.27 | 22.96 | 37.64 | 38.10 |
| 22         | 37.29 | 36.32 | 26.14 | 37.64 | 41.42 |
| 24         | 40.46 | 39.62 | 29.06 | 37.64 | 44.50 |

Note: All dimensions are in millimeters (mm)

## Backnut and cable clamp

Backnut  
Type 31 (aluminum)  
Type 01 (stainless steel)



Straight cable clamp  
Type 52 (aluminum)  
Type 02 (stainless steel)



Elbow cable clamp  
Type 51 (aluminum)



Aluminum backshell 852 31 N 14

### Backshell type:

- 31: Backnut
- 52: Straight cable clamp
- 51: Elbow cable clamp

### Plating:

- A: Black anodized
- N: Nickel
- W: Olive green cadmium

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

Stainless steel backshell 8527 01 14

### Backshell type:

- 01: Backnut
- 02: Straight cable clamp

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

A: Mandatory suffix for backshell type 02

| Shell size | A Max | B     | C $\pm 0.7$ | D $\pm 0.15$ | E Max | F Max | G Max | H Max | Torque values Nm |
|------------|-------|-------|-------------|--------------|-------|-------|-------|-------|------------------|
| 08         | 15.67 | 6.85  | 12.85       | 4            | 19.25 | 22.61 | 20.50 | 27.96 | 8.6              |
| 10         | 18.64 | 9.50  |             | 6.85         | 20.45 | 25.40 | 22.00 | 30.04 | 11.5             |
| 12         | 21.79 | 12.90 |             | 10.15        | 24.35 | 28.60 | 23.60 | 34.95 | 16.1             |
| 14         | 24.99 | 14.85 |             | 11.7         | 25.85 | 28.58 | 25.20 | 36.47 | 17.3             |
| 16         | 28.24 | 18.03 |             | 15.5         | 32.75 | 31.75 | 26.80 | 40.25 | 17.3             |
| 18         | 30.94 | 20.04 |             | 17.5         | 36.15 | 38.10 | 31.30 | 43.10 | 17.3             |
| 20         | 34.16 | 23.21 |             | 20.7         | 38.75 | 41.28 | 32.90 | 46.27 | 20.7             |
| 22         | 37.29 | 26.39 |             | 23.9         | 41.25 | 43.55 | 34.50 | 49.45 | 20.7             |
| 24         | 40.46 | 29.30 |             | 27           | 44.35 | 47.62 | 36.10 | 52.62 | 20.7             |

## Length - mated/unmated connectors with backshells



Backnut - Type 31 or Type 01  
+ Square flange receptacle  
+ Plug  
+ Backnut - Type 31 or Type 01



Backnut - Type 31 or Type 01  
+ Square flange receptacle  
+ Plug  
+ Straight cable clamp - Type 52 or Type 02

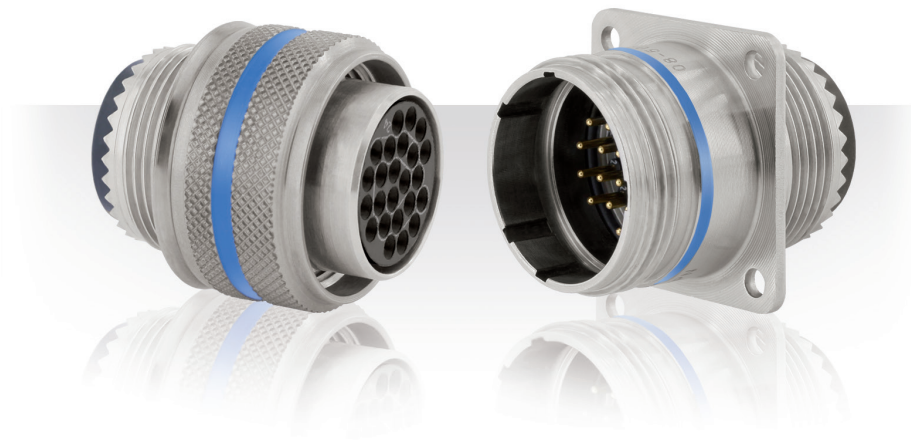


Backnut - Type 31 or Type 01  
+ Square flange receptacle + Plug  
+ Elbow cable clamp - Type 51

| Shell size | A  | B  | C       |         | D       |         | E     | F     |
|------------|----|----|---------|---------|---------|---------|-------|-------|
|            |    |    | Type 52 | Type 02 | Type 52 | Type 02 |       |       |
| 8          | 62 | 73 | 71.8    | 71.8    | 82.8    | 82.8    | 76.75 | 87.75 |
| 10         |    |    | 73.6    | 74.65   | 84.6    | 85.65   | 78.45 | 89.45 |
| 12         |    |    | 77      | 77.8    | 88      | 88.8    | 81.05 | 92.05 |
| 14         |    |    | 77      | 77.8    | 88      | 88.8    | 82.55 | 93.55 |
| 16         |    |    | 80      | 81      | 91      | 92      | 86.45 | 97.45 |

| Shell size | A  | B  | C       |         | D       |         | E     | F      |
|------------|----|----|---------|---------|---------|---------|-------|--------|
|            |    |    | Type 52 | Type 02 | Type 52 | Type 02 |       |        |
| 18         | 62 | 73 | 87      | 87.35   | 98      | 98.35   | 87.85 | 98.85  |
| 20         |    |    | 89.6    | 90.8    | 100.6   | 101.8   | 89.4  | 100.4  |
| 22         |    |    | 93.5    | 93.7    | 104.5   | 104.7   | 91.05 | 102.05 |
| 24         |    |    | 95.9    | 96.9    | 106.9   | 107.9   | 92.65 | 103.65 |

Note: All dimensions are in millimeters (mm)



## Description

- Stainless steel screw coupling connector designed for use in aviation engine harsh environments:
  - . high vibration resistant
  - . high temperature resistant (260° C)
  - . fire proof (1100° C)
- Scoop proof design to enable blind mating.
- Qualified to ESC11 standard, and per PrEN4067 standard project.
- Fully interchangeable and intermateable with ESC16 / 8536 connectors (integrated backshell version).
- Large array of crimp contact:
  - . standard size 16 and 20 contacts
  - . thermocouple size 16 and 20 contacts
- Fuel tank version available upon request.

## Technical features

### Mechanical

- **Shell:**
  - . Passivated stainless steel.
- **Grommet and seal:**
  - . Silicone elastomer.
- **Insulator:**
  - . Thermoplastic.
- **Contact body:**
  - . Copper alloy.
- **Contact plating:**
  - . Gold over nickel.
- **Contact retention:**
  - . Size 20: 90 N
  - . Size 16: 110 N
- **Mating cycles:**
  - . 500 mating / unmating operations.
- **Vibration & shock:**
  - . According to JES290-083: 41 grms (2 x 8 hours)

### Electrical

- **Dielectric withstanding:**

| Altitude  | Service I |
|-----------|-----------|
| Sea level | 1500 Vrms |
| 15 000 m  | 600 Vrms  |
| 21 000 m  | 400 Vrms  |
| 33 000 m  | 200 Vrms  |
- **Insulation Resistance:**
  - . 5000 MΩ under 500 Vdc.
- **Max current rating per contact:**

| Contact size | 20  | 16 |
|--------------|-----|----|
| Rating (A)   | 7.5 | 13 |
- **Contact resistance:**
  - . initial contact resistance at ambient temperature as per EN 2997 and EN315

| Contact size  | 20  | 16  | 12  |
|---------------|-----|-----|-----|
| Resistance mΩ | 7.3 | 3.8 | 3.5 |
- **Electrical continuity:**
  - . 5mΩ with RFI shielding (6SE class).
- **Shielding:**
  - . to 100 MHz at 1 GHz attenuation 65 dB.

### Environmental

- **Temperature range:**
  - . - 65°C +260°C
- **Leakage:**
  - . as per 2591-312: Method B differential pressure: 100kPa
  - Maximum leakage flow: 16x10<sup>-6</sup> m³/h
- **Salt Spray:**
  - . 500 hours.
- **Fire resistance:**
  - . as per EN 2591-318: 6 min under a 1100°C flame without electrical perturbation, plus 14 min with no flame propagation (ES class).
- **Resistance to fluids:**
  - . MIL-H 5606 - SKYDROL 500 B4 - LD4 - JP5 - MIL-L 7870A - MIL-L 23699 - MIL- L 7808 - MIL-C 25769 - MIL-A 8243

## Ordering information

### SOURIAU part numbers

| Basic Series                                                                                                                                                                                          | 8534 | 6SE | 14 | 15 | S | N |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----|----|----|---|---|
| <b>Shell type:</b><br><b>0SE:</b> Stainless steel square flange receptacle<br><b>6SE:</b> Stainless steel plug with RFI screening ring<br><b>6KE:</b> Stainless steel plug without RFI screening ring |      |     |    |    |   |   |
| <b>Shell size:</b> 14, 16, 18, 20, 22, 24                                                                                                                                                             |      |     |    |    |   |   |
| <b>Contact layout:</b> See page 10                                                                                                                                                                    |      |     |    |    |   |   |
| <b>Contact type:</b><br><b>P:</b> Pin <b>A:</b> Connector supplied less pin contact<br><b>S:</b> Socket <b>B:</b> Connector supplied less socket contact                                              |      |     |    |    |   |   |
| <b>Orientation:</b> N, 6, 7, 8, 9 (see page 26)                                                                                                                                                       |      |     |    |    |   |   |

### ESC11 Qualified products

| Basic Series                                                                                                                                                                                         | ESC11 | SE | 6 | 14 | 15 | P | N | 0 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|----|---|----|----|---|---|---|
| <b>Shell class:</b><br><b>KE:</b> 260°C stainless steel: standard receptacle; plug without RFI screening ring<br><b>SE:</b> 260°C stainless steel: standard receptacle; plug with RFI screening ring |       |    |   |    |    |   |   |   |
| <b>Shell type:</b><br><b>0:</b> Square flange receptacle<br><b>6:</b> Plug                                                                                                                           |       |    |   |    |    |   |   |   |
| <b>Shell size:</b> 14, 16, 18, 20, 22, 24                                                                                                                                                            |       |    |   |    |    |   |   |   |
| <b>Contact layout:</b> See page 10                                                                                                                                                                   |       |    |   |    |    |   |   |   |
| <b>Contact type:</b><br><b>P:</b> Pin<br><b>S:</b> Socket                                                                                                                                            |       |    |   |    |    |   |   |   |
| <b>Orientation:</b> N, 6, 7, 8, 9 (see page 26)                                                                                                                                                      |       |    |   |    |    |   |   |   |
| <b>Variant identifier:</b><br><b>0:</b> Delivered without contact                                                                                                                                    |       |    |   |    |    |   |   |   |

## Cross reference list

| PrEN4067        | SOURIAU       | Short description                                                              |
|-----------------|---------------|--------------------------------------------------------------------------------|
| EN4067SE6●●●●B□ | 85346SE●●●●B□ | Plug with RFI screening ring for socket contacts, delivered without contact    |
| EN4067SE6●●●●F□ | 85346SE●●●●S□ | Plug with RFI screening ring for socket contacts, delivered with contacts      |
| EN4067SE6●●●●A□ | 85346SE●●●●A□ | Plug with RFI screening ring for pin contacts, delivered without contact       |
| EN4067SE6●●●●M□ | 85346SE●●●●P□ | Plug with RFI screening ring for pin contacts, delivered with contacts         |
| EN4067SE0●●●●B□ | 85340SE●●●●B□ | Square flange receptacle for socket contacts, delivered without contact        |
| EN4067SE0●●●●F□ | 85340SE●●●●S□ | Square flange receptacle for socket contacts, delivered with contacts          |
| EN4067SE0●●●●A□ | 85340SE●●●●A□ | Square flange receptacle for pin contacts, delivered without contact           |
| EN4067SE0●●●●M□ | 85340SE●●●●P□ | Square flange receptacle for pin contacts, delivered with contacts             |
| EN4067KE6●●●●B□ | 85346KE●●●●B□ | Plug without RFI screening ring for socket contacts, delivered without contact |
| EN4067KE6●●●●F□ | 85346KE●●●●S□ | Plug without RFI screening ring for socket contacts, delivered with contacts   |
| EN4067KE6●●●●A□ | 85346KE●●●●A□ | Plug without RFI screening ring for pin contacts, delivered without contact    |
| EN4067KE6●●●●M□ | 85346KE●●●●P□ | Plug without RFI screening ring for pin contacts, delivered with contacts      |

●●●● Shell size and contact layout   □ Orientation

## Dimensions

### Plug



| Shell size         | 14                  | 16                  | 18                   | 20                   | 22                   | 24                   |
|--------------------|---------------------|---------------------|----------------------|----------------------|----------------------|----------------------|
| Thread<br>Class 2A | 0.875-20<br>UNEF 2A | 1.000-20<br>UNEF 2A | 1.0625-18<br>UNEF 2A | 1.1875-18<br>UNEF 2A | 1.3125-18<br>UNEF 2A | 1.4375-18<br>UNEF 2A |
| ØA Max             | 31.24               | 34.42               | 37.34                | 41.91                | 44.07                | 47.24                |
| ØB Max             | 19.43               | 22.66               | 25.35                | 28.52                | 31.70                | 34.87                |

### Square Flange Receptacle



| Shell size         | 14                  | 16                  | 18                   | 20                   | 22                   | 24                   |
|--------------------|---------------------|---------------------|----------------------|----------------------|----------------------|----------------------|
| A <sup>±0.13</sup> | 28.56               | 31.75               | 34.11                | 36.50                | 39.67                | 43.26                |
| B                  | 23.01               | 24.61               | 26.97                | 29.36                | 31.75                | 34.92                |
| Thread<br>Class 2A | 0.875-20<br>UNEF 2A | 1.000-20<br>UNEF 2A | 1.0625-18<br>UNEF 2A | 1.1875-18<br>UNEF 2A | 1.3125-18<br>UNEF 2A | 1.4375-18<br>UNEF 2A |
| ØC Max             | 16.89               | 20.07               | 22.07                | 25.25                | 28.42                | 31.60                |

Note: All dimensions are in millimeters (mm)

## Panel Cut Out

Square flange receptacle



| Shell size | A min | B     | C    |
|------------|-------|-------|------|
| 14         | 24.90 | 23.01 | 3.20 |
| 16         | 28.30 | 24.61 |      |
| 18         | 31.10 | 26.97 |      |
| 20         | 34.50 | 39.36 |      |
| 22         | 37.50 | 31.75 |      |
| 24         | 40.60 | 34.92 | 3.80 |

Minimum space between square flange receptacles: see page 20.

## Orientation

### Orientation



Front face view of plug

| Shell size     | Angles | N   | 6   | 7   | 8   | 9   |
|----------------|--------|-----|-----|-----|-----|-----|
| 14             | A°     | 95  | 101 | 18  | 26  | 120 |
|                | B°     | 145 | 168 | 136 | 156 | 161 |
|                | C°     | 220 | 211 | 208 | 208 | 225 |
|                | D°     | 255 | 342 | 268 | 276 | 336 |
| 16             | A°     | 95  | 101 | 18  |     |     |
|                | B°     | 145 | 168 | 136 |     |     |
|                | C°     | 220 | 211 | 208 | -   | -   |
|                | D°     | 255 | 342 | 268 |     |     |
| 18             | A°     | 95  | 101 |     |     |     |
|                | B°     | 145 | 168 |     |     |     |
|                | C°     | 220 | 211 | -   | -   | -   |
|                | D°     | 255 | 342 |     |     |     |
| 20, 22<br>& 24 | A°     | 95  | 101 | 18  | 26  |     |
|                | B°     | 145 | 168 | 136 | 156 |     |
|                | C°     | 220 | 211 | 208 | 208 | -   |
|                | D°     | 255 | 342 | 268 | 276 |     |

## Connector weights

| Mass max. (g) less contact |                            |                               |                          |
|----------------------------|----------------------------|-------------------------------|--------------------------|
| Shell size                 | Plug with grounding spring | Plug without grounding spring | Receptacle Square flange |
| 14                         | 62                         | 59                            | 40                       |
| 16                         | 72                         | 67                            | 51                       |
| 18                         | 82                         | 78                            | 61                       |
| 20                         | 104                        | 100                           | 79                       |
| 22                         | 112                        | 108                           | 88                       |
| 24                         | 124                        | 120                           | 98                       |

### Mass of crimp contacts

| Contact size | Mass (g) |        |
|--------------|----------|--------|
|              | Pin      | Socket |
| 20           | 0.24     | 0.29   |
| 16           | 0.53     | 0.59   |

Note: All dimensions are in millimeters (mm)



## Description

- Stainless steel screw coupling connector designed for use in aviation engine harsh environments:
  - High vibration resistance
  - High temperature resistance 200°C / 260°C
  - Fire proof 1100°C
- Integrated backshell for compact and light weight applications, with the possibility to have a full scoop proof connection (8536 Series / ESC16 Series).
- Qualified to ESC15 (8535 Series) and ESC16 (8536 Series) standard, and per the new EN2997 issue.
- Fully interchangeable:
  - 8535 Series with BACC 63 CM-CN, EN2997 & ESC10 connectors
  - 8536 Series with ESC11 connectors
- 8535 Series intermateable with BACC 63 CM-CN
- Large array of crimp contacts: (same as for 8533 Series)
  - Standard size 12, 16 and 20 contacts
  - Thermocouple size 12, 16 and 20 contacts

## Technical features

### Mechanical

- **Shell:** Passivated stainless steel.
- **Grommet and seal:** Silicone elastomer.
- **Insulator:** Thermoplastic.
- **Contact body:** Copper Alloy.
- **Contact plating:** Gold Over Nickel.
- **Contact retention:**
  - . Size 20: 90 N
  - . Size 16: 110 N
  - . Size 12: 130 N
- **Mating cycles:** 500 coupling operation.
- **Vibration & shock:**
  - . According to JES290-083: 41 grms, 2x 8 hours (ES class)
  - . According to JES290-102: 35 grms, 60 hours (KV class)
  - . According to EN2591: 5Hz to 2000Hz at 1G<sup>2</sup>/Hz (2x8 hours)

### Electrical

- **Dielectric withstanding:**

| Altitude   | Service   |
|------------|-----------|
| Alt ground | 1500 Vrms |
| 15 000 m   | 600 Vrms  |
| 21 000 m   | 400 Vrms  |
| 33 000 m   | 200 Vrms  |
- **Insulation Resistance:** 5000 MΩ at 500 Vdc.
- **Max current rating per contact:**
  - . Size 20: 7.5 A
  - . Size 16: 13 A
  - . Size 12: 23 A
- **Contact resistance:**
  - . initial contact resistance at ambient temperature as per EN 2997 and EN315

| Contact size  | 20  | 16  | 12  |
|---------------|-----|-----|-----|
| Resistance mΩ | 7.3 | 3.8 | 3.5 |
- **Electrical continuity:** 5mΩ with RFI shielding.
- **Shielding:** to 100 MHz at 1 GHz attenuation 65 dB.

### Environmental

- **Temperature range:** - 60°C +260°C
- **Leakage as per 2591-312:**
  - Method B differential pressure: 100kPa
  - Maximum leakage flow: 16x10<sup>-6</sup> m<sup>3</sup>/h
- **Salt Spray:** 500 hours.
- **Fire resistance as per EN 2591-318:**
  - 6 min under a 1100°C flame without electrical perturbation, plus 14 min with no flame propagation (ES class).
- **Resistance to fluids:**
  - MIL-H 5606 - SKYDROL 500 B4 - LD4 - JP5 - MIL-L 7870A - MIL-L 23699 - MIL- L 7808 - MIL-C 25769 - MIL-A 8243

## Ordering information

### SOURIAU 8535 part numbers

| Basic Series: ESC15 / EN2997 type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 8535 | 3ES | 18 | 14 | S | N |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----|----|----|---|---|
| <b>Class &amp; Shell type:</b><br><b>Integrated backshell stainless steel shell with knurl type 1:</b> (see p.30 for knurl description)<br><b>AES:</b> 260°C square flange receptacle<br><b>CES:</b> 260°C plug with RFI screening ring<br><b>DES:</b> 260°C square flange receptacle with clinch nut*<br><b>EES:</b> 260°C plug without RFI screening ring<br><b>OKS:</b> 200°C square flange receptacle<br><b>OKV:</b> 260°C square flange receptacle, high vibration<br><b>3KS:</b> 200°C plug with RFI screening ring<br><b>3KV:</b> 260°C plug with RFI screening ring, high vibration<br><b>4KV:</b> 260°C plug without RFI screening ring, high vibration<br><b>5KS:</b> 200°C square flange receptacle with clinch nut*<br><b>5KV:</b> 260°C square flange receptacle with clinch nut, high vibration<br><b>Integrated backshell stainless steel shell with knurl type 2:</b> (see p.30 for knurl description)<br><b>OES:</b> 260°C square flange receptacle<br><b>3ES:</b> 260°C plug with RFI screening ring<br><b>4ES:</b> 260°C plug without RFI screening ring<br><b>5ES:</b> 260°C square flange receptacle with clinch nut* |      |     |    |    |   |   |
| <b>Shell size:</b> See pages 10 to 13                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |      |     |    |    |   |   |
| <b>Contact layout:</b> See pages 10 to 13                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |      |     |    |    |   |   |
| <b>Contact type:</b><br><b>P:</b> Pin<br><b>S:</b> Socket                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |      |     |    |    |   |   |
| <b>Orientation:</b><br><b>N, 6, 7, 8, 9</b> (see page 32)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |      |     |    |    |   |   |
| <b>Specification:</b><br><b>empty:</b> Delivered with contacts<br><b>L:</b> Delivered without contacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |      |     |    |    |   |   |

Note: aluminum version, please consult us.

\* Please consult us.

### SOURIAU 8536 part numbers

| Basic Series: ESC16 scoop proof type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 8536 | 3ES | 18 | 14 | S | N |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----|----|----|---|---|
| <b>Class &amp; Shell type:</b><br><b>Integrated backshell stainless steel shell with knurl type 1:</b> (see p.30 for knurl description)<br><b>4KV:</b> 260°C plug without RFI screening ring, high vibration<br><b>5KV:</b> 260°C square flange receptacle with clinch nut, high vibration<br><b>Integrated backshell stainless steel shell with knurl type 2:</b> (see p.30 for knurl description)<br><b>OES:</b> 260°C square flange receptacle<br><b>3ES:</b> 260°C plug with RFI screening ring<br><b>4ES:</b> 260°C plug without RFI screening ring |      |     |    |    |   |   |
| <b>Shell size:</b> See pages 10 to 13                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      |     |    |    |   |   |
| <b>Contact layout:</b> See pages 10 to 13                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |      |     |    |    |   |   |
| <b>Contact type:</b><br><b>P:</b> Pin<br><b>S:</b> Socket                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |      |     |    |    |   |   |
| <b>Orientation:</b><br><b>N, 6, 7, 8, 9</b> (see page 32)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |      |     |    |    |   |   |
| <b>Specification:</b><br><b>empty:</b> Delivered with contacts<br><b>L:</b> Delivered without contacts                                                                                                                                                                                                                                                                                                                                                                                                                                                   |      |     |    |    |   |   |

## ESC15/ESC16 Qualified product

| Basic Series                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | ESC15 | KE2 | 18 | 14 | S | N | 0 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----|----|----|---|---|---|
| ESC15: Integrated backshell<br>ESC16: Integrated backshell, scoop proof version                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |       |     |    |    |   |   |   |
| <b>Class &amp; Shell type:</b><br><b>Integrated backshell stainless steel shell with knurl type 1:</b> (see p.30 for knurl description)<br>KV2: 260°C square flange receptacle, high vibration*<br>KV4: 260°C square flange receptacle with clinch nut, high vibration<br>KV7: 260°C plug without RFI screening ring, high vibration<br><b>Integrated backshell stainless steel shell with knurl type 2:</b> (see p.30 for knurl description)<br>KE2: 260°C square flange receptacle<br>KE7: 260°C plug without RFI screening ring<br>SE7: 260°C plug with RFI screening ring<br>KE4: 260°C square flange receptacle with clinch nut |       |     |    |    |   |   |   |
| <b>Shell size:</b> See pages 10 to 13                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |       |     |    |    |   |   |   |
| <b>Contact layout:</b> See pages 10 to 13                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |       |     |    |    |   |   |   |
| <b>Contact type:</b><br>P: Pin<br>S: Socket                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |       |     |    |    |   |   |   |
| <b>Orientation:</b><br>N, 6, 7, 8, 9 (see page 32)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |       |     |    |    |   |   |   |
| <b>Mandatory variant identifier:</b><br>0: Delivered without contact (class KE & SE only)<br>V: Delivered without contact (class KV only)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |       |     |    |    |   |   |   |

\* Please consult us.

## EN2997 Qualified product

| Basic Series                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | EN2997 | SEA                                                                | 18 | 14 | F | N |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------------------------------------------------------------------|----|----|---|---|
| <b>Class &amp; Shell type:</b><br><b>Integrated backshell stainless steel shell with knurl type 1:</b> (see p.30 for knurl description)<br>KEC: 260°C plug without RFI screening ring<br>KVC: 260°C plug without RFI screening ring, high vibration<br>SC: 200°C plug with RFI screening ring<br>SEC: 260°C plug with RFI screening ring<br>SVC: 260°C plug with RFI screening ring, high vibration*<br>SA: 200°C square flange receptacle<br>SEA: 260°C square flange receptacle<br>SVA: 260°C square flange receptacle, high vibration*<br>SD: 200°C square flange receptacle with clinch nut*<br>SED: 260°C square flange receptacle with clinch nut*<br>SVD: 260°C square flange receptacle with clinch nut, high vibration*<br><b>Integrated backshell aluminum shell with knurl type 1:</b> (see p.30 for knurl description)<br>WSC: 175°C olive-green cadmium plug with RFI screening ring, conductive plating*<br>RSC: 200°C nickel plug with RFI screening ring, conductive plating*<br>WSA: 175°C olive-green cadmium square flange receptacle, conductive plating*<br>RSA: 200°C nickel square flange receptacle, conductive plating* |        |                                                                    |    |    |   |   |
| <b>Shell size:</b> See pages 10 to 13                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |        |                                                                    |    |    |   |   |
| <b>Contact layout:</b> See pages 10 to 13                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |        |                                                                    |    |    |   |   |
| <b>Contact type:</b><br>M: Male contact<br>A: Connector delivered without male contact                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |        | F: Female contact<br>B: Connector delivered without female contact |    |    |   |   |
| <b>Orientation:</b> N, 6, 7, 8, 9 (see page 32)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |        |                                                                    |    |    |   |   |

\* Please consult us.

## Knurl description

### Knurl Type 1

Conform to:

- EN2997
- ESC15/ESC16

High vibration



### Knurl Type 2

Conform to:

- ESC15/ESC16



## Dimensions

### Plug - 8535/ESC15/EN2997 model 8536/ESC16

Front face view



8535/ESC15/EN2997C



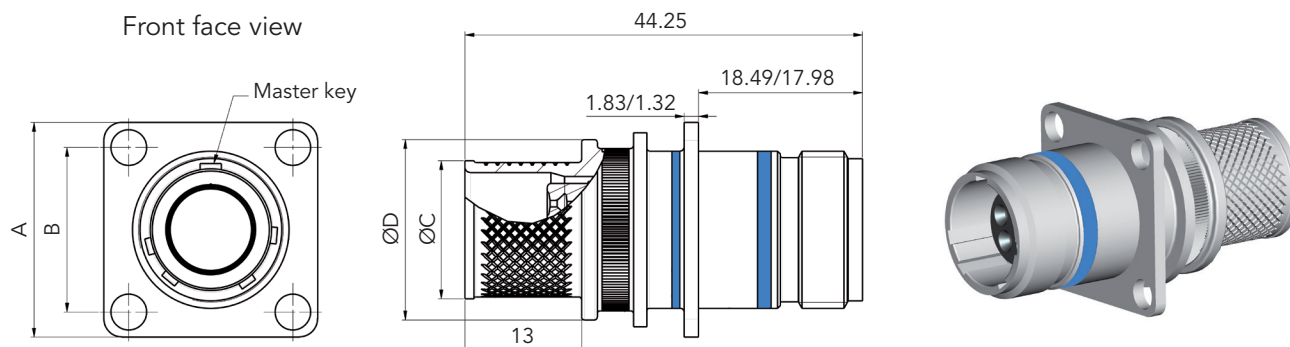
8536/ESC16



| Shell size   | 08    | 10    | 12    | 14    | 16    | 18    | 20    | 22    | 24    | 28    |
|--------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| ØA Max       | 21.30 | 24.89 | 29.59 | 31.24 | 34.42 | 37.34 | 41.91 | 44.07 | 47.24 | 55.24 |
| ØB $\pm 0.1$ | 12.10 | 15.32 | 18.27 | 21.45 | 24.62 | 26.04 | 29.22 | 32.40 | 35.47 | 41.92 |
| ØC $\pm 0.1$ | 18.70 | 19.60 | 22.00 | 26.10 | 28.60 | 29.80 | 33.60 | 36.70 | 42.10 | 46.60 |

Tolerance on linear dimensions shall be  $\pm 0.25$  unless otherwise specified.

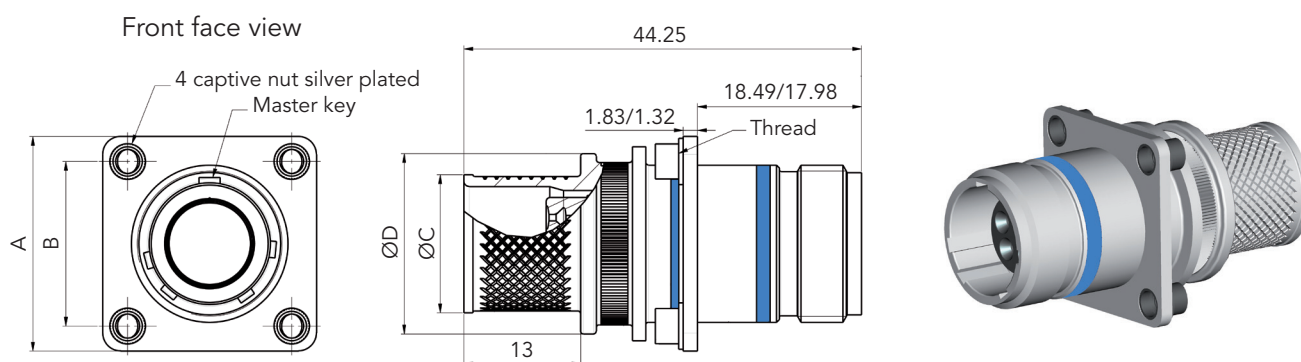
## Square Flange Receptacle - 8535/ESC15/EN2997 model 8536/ESC16



| Shell size                    | 08    | 10    | 12    | 14    | 16    | 18    | 20    | 22    | 24    | 28    |
|-------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>A<math>\pm 0.13</math></b> | 20.62 | 23.80 | 26.19 | 28.57 | 31.75 | 34.11 | 36.50 | 39.67 | 43.26 | 50.80 |
| <b>B</b>                      | 15.09 | 18.26 | 20.62 | 23.01 | 24.61 | 26.97 | 29.36 | 31.75 | 34.92 | 39.67 |
| <b>ØC<math>\pm 0.1</math></b> | 12.10 | 15.32 | 18.27 | 21.45 | 24.62 | 26.04 | 29.22 | 32.40 | 35.57 | 41.92 |
| <b>ØD<math>\pm 0.1</math></b> | 18.70 | 19.60 | 22.00 | 26.10 | 28.60 | 29.80 | 33.60 | 36.70 | 42.10 | 46.60 |

Tolerance on linear dimensions shall be  $\pm 0.25$  unless otherwise specified.

## Square Flange Receptacle With Clinch Nut - 8535/ESC15/EN2997 model 8536/ESC16



| Shell size                    | 08           | 10    | 12    | 14    | 16    | 18    | 20    | 22    | 24           | 28    |
|-------------------------------|--------------|-------|-------|-------|-------|-------|-------|-------|--------------|-------|
| <b>A<math>\pm 0.13</math></b> | 20.62        | 23.80 | 26.19 | 28.57 | 31.75 | 34.11 | 36.50 | 39.67 | 43.26        | 50.80 |
| <b>B</b>                      | 15.09        | 18.26 | 20.62 | 23.01 | 24.61 | 26.97 | 29.36 | 31.75 | 34.92        | 39.67 |
| <b>ØC<math>\pm 0.1</math></b> | 12.10        | 15.32 | 18.27 | 21.45 | 24.62 | 26.04 | 29.22 | 32.40 | 35.57        | 41.92 |
| <b>ØD<math>\pm 0.1</math></b> | 18.70        | 19.60 | 22.00 | 26.10 | 28.60 | 29.80 | 33.60 | 36.70 | 42.10        | 46.60 |
| <b>Thread</b>                 | 0.1120-40UNC |       |       |       |       |       |       |       | 0.1380-32UNC |       |

Tolerance on linear dimensions shall be  $\pm 0.25$  unless otherwise specified.

## Panel Cut Out (Receptacle Shell Type 0 and 5)

Square flange receptacle



Minimum space between square flange receptacles: see page 20.

| Shell size | A min | B     | C    |
|------------|-------|-------|------|
| 08         | 15.80 | 15.09 | 3.20 |
| 10         | 18.70 | 18.26 |      |
| 12         | 23.40 | 20.62 |      |
| 14         | 24.90 | 23.01 |      |
| 16         | 28.30 | 24.61 |      |
| 18         | 31.10 | 26.97 |      |
| 20         | 34.50 | 39.36 |      |
| 22         | 37.50 | 31.75 | 3.80 |
| 24         | 40.60 | 34.92 |      |
| 28         | 48.00 | 39.67 |      |

## Orientation



8535/ESC15 / EN2997

| Shell size | Angles | N   | 6   | 7   | 8   | 9   |
|------------|--------|-----|-----|-----|-----|-----|
| 08 & 10    | A°     | 105 | 102 | 80  | 35  | 64  |
|            | B°     | 140 | 132 | 118 | 140 | 155 |
|            | C°     | 215 | 248 | 230 | 205 | 234 |
|            | D°     | 265 | 320 | 312 | 275 | 304 |
| 12 to 28   | A°     | 105 | 18  | 92  | 84  | 24  |
|            | B°     | 140 | 149 | 152 | 152 | 135 |
|            | C°     | 215 | 192 | 222 | 204 | 199 |
|            | D°     | 265 | 259 | 342 | 334 | 240 |

8536/ESC16

| Shell size | Angles | N   | 6   | 7   | 8   | 9   |
|------------|--------|-----|-----|-----|-----|-----|
| 08 & 10    | A°     | 95  | 40  | 48  | 85  | 56  |
|            | B°     | 145 | 112 | 130 | 155 | 126 |
|            | C°     | 220 | 228 | 242 | 220 | 205 |
|            | D°     | 255 | 258 | 280 | 325 | 296 |
| 12 to 28   | A°     | 95  | 101 | 18  | 26  | 120 |
|            | B°     | 145 | 168 | 138 | 156 | 161 |
|            | C°     | 220 | 211 | 208 | 208 | 225 |
|            | D°     | 255 | 342 | 268 | 276 | 336 |

## Connector weights

| Shell size | Mass max. (g) less contact |                 |
|------------|----------------------------|-----------------|
|            | Square flange              | Plug            |
|            | Stainless steel            | Stainless steel |
| 8          | 25                         | 45              |
| 10         | 40                         | 62              |
| 12         | 48                         | 71              |
| 14         | 60                         | 85              |
| 16         | 70                         | 100             |
| 18         | 81                         | 113             |
| 20         | 89                         | 125             |
| 22         | 101                        | 141             |
| 24         | 110                        | 157             |
| 28         | 135                        | 192             |

## Mass of crimp contacts

| Contact size | Mass (g) |        |
|--------------|----------|--------|
|              | Pin      | Socket |
| 20           | 0.24     | 0.29   |
| 16           | 0.53     | 0.59   |
| 12           | 1.15     | 1.28   |

## Description

- The utmost solution to combine high vibrations, high temperatures and high power supply: up to 80 Amps continuous rating at 260°C ambient temperature with a 20% space-savings compared with other solutions.
- Two contact sizes - size 6 and size 4 - as well as the ability to use quadrax contacts in size 6 cavity layouts.
- Standard strain relief backshell or spacer accessory to adapt any specific backshell.
- Airbus ABS 1340-1343, 1426-1427, 1452 qualified.
- Grounded insert option for optimized quadrax performance.
- Electro mechanical actuator power supply, alternator, starter applications.



## Technical features

### Mechanical

- **Shell:**
  - . nickel plated aluminum (R class),
  - . passivated stainless steel (E & K classes).
- **Grommet and seal:**
  - . silicone elastomer.
- **Insulator:**
  - . thermoplastic.
- **Contact body:**
  - . copper alloy.
- **Contact plating:**
  - . gold over nickel.
- **Contact retention:**
  - . size 4: 200N      . size 8: 130N
  - . size 6: 156N
- **Endurance:**
  - . 500 mating cycles (E & K classes),
  - . 250 mating cycles (R class).
- **Vibration & shock:**
  - . according to EN 2997.

### Electrical

- **Dielectric withstanding:**

| Altitude  | Service I |
|-----------|-----------|
| Sea level | 1500 Vrms |
| 15 000 m  | 600 Vrms  |
| 21 000 m  | 400 Vrms  |
| 33 000 m  | 200 Vrms  |
- **Insulation resistance:**
  - . 5000 MΩ under 500 Vdc.
- **Max current rating per contact:**

Quadrax: 4 size 24 inner contacts in a size 8 outer contact.

| Contact size | 6  | 4  |
|--------------|----|----|
| Rating (A)   | 60 | 80 |
- **Contact resistance:**
  - . Initial < 0.4 mΩ.
- **Electrical continuity:**
  - . 5mΩ with RFI shielding.
- **Shielding:**
  - . to 100 MHz at 1 GHz attenuation 65 dB.

### Environmental

- **Temperature range:**
  - . -60°C +200°C R & K classes,
  - . -60°C +260°C E class & #6 contact only.
- **Leakage:**
  - . as per 2591-312:
  - Method B differential pressure: 100kPa
  - Maximum leakage flow: 16x10<sup>-6</sup> m<sup>3</sup>/h
- **Salt spray:**
  - . 48 hours (R class),
  - . 500 hours (E & K classes).
- **Fire resistance:**
  - . as per EN 2591-318:
  - 6 min under a 1100°C flame without electrical perturbation, plus 14 min with no flame propagation (ES class).
- **Resistance to fluids:**
  - . MIL-H 5606 - SKYDROL 500 B4 - LD4 - JP5 - MIL-L 7870A - MIL-L 23699 - MIL- L 7808 - MIL-C 25769 - MIL-A 8243

## Ordering information

### SOURIAU part numbers

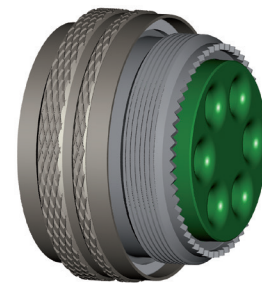
|                                                                                                                          |             |          |          |          |           |           |          |          |          |          |
|--------------------------------------------------------------------------------------------------------------------------|-------------|----------|----------|----------|-----------|-----------|----------|----------|----------|----------|
| <b>Basic series</b>                                                                                                      | <b>8533</b> | <b>0</b> | <b>R</b> | <b>S</b> | <b>20</b> | <b>04</b> | <b>P</b> | <b>N</b> | <b>G</b> | <b>L</b> |
| <b>Shell type:</b>                                                                                                       |             |          |          |          |           |           |          |          |          |          |
| 0: Square flange receptacle                                                                                              |             |          |          |          |           |           |          |          |          |          |
| 3: Plug with RFI shielding                                                                                               |             |          |          |          |           |           |          |          |          |          |
| 7: Jam nut receptacle                                                                                                    |             |          |          |          |           |           |          |          |          |          |
| <b>Shell class:</b>                                                                                                      |             |          |          |          |           |           |          |          |          |          |
| R: Nickel plated aluminum shell (200°C)                                                                                  |             |          |          |          |           |           |          |          |          |          |
| K: Stainless steel shell (200°C)                                                                                         |             |          |          |          |           |           |          |          |          |          |
| E: Stainless steel shell (260°C - except layouts 08-01 & 24-04: 200°C)                                                   |             |          |          |          |           |           |          |          |          |          |
| S: With 360° teeth                                                                                                       |             |          |          |          |           |           |          |          |          |          |
| <b>Shell size:</b>                                                                                                       |             |          |          |          |           |           |          |          |          |          |
| 08, 18, 20, 24, 28                                                                                                       |             |          |          |          |           |           |          |          |          |          |
| <b>Contact layout:</b>                                                                                                   |             |          |          |          |           |           |          |          |          |          |
| See page 10                                                                                                              |             |          |          |          |           |           |          |          |          |          |
| <b>Contact type:</b>                                                                                                     |             |          |          |          |           |           |          |          |          |          |
| P: Pin                                                                                                                   |             |          |          |          |           |           |          |          |          |          |
| S: Socket                                                                                                                |             |          |          |          |           |           |          |          |          |          |
| <b>Orientation:</b>                                                                                                      |             |          |          |          |           |           |          |          |          |          |
| N, 6, 7, 8, 9, Y (see page 20)                                                                                           |             |          |          |          |           |           |          |          |          |          |
| <b>Insert class:</b>                                                                                                     |             |          |          |          |           |           |          |          |          |          |
| None: Not grounded                                                                                                       |             |          |          |          |           |           |          |          |          |          |
| G: Grounded - for Quadrax applications only                                                                              |             |          |          |          |           |           |          |          |          |          |
| <b>Mandatory suffix for shells sizes 18, 20, 24 &amp; 28 :</b>                                                           |             |          |          |          |           |           |          |          |          |          |
| 109: With contact #4 for cable #6 + sealing boot                                                                         |             |          |          |          |           |           |          |          |          |          |
| 115: With contact #4 for cable #8 + sealing boot                                                                         |             |          |          |          |           |           |          |          |          |          |
| 125: With quadrax contact + sealing boot (200°C max)                                                                     |             |          |          |          |           |           |          |          |          |          |
| 126: With backshell, without contact and sealing boot                                                                    |             |          |          |          |           |           |          |          |          |          |
| 136: With contact #6 for cable #6 + sealing boot                                                                         |             |          |          |          |           |           |          |          |          |          |
| 138: With contact #6 for cable #8 + sealing boot                                                                         |             |          |          |          |           |           |          |          |          |          |
| 143: With contact #6 for cable #10/12 + sealing boot                                                                     |             |          |          |          |           |           |          |          |          |          |
| 231: With spacer, without contact and sealing boot (see next page for available layouts)                                 |             |          |          |          |           |           |          |          |          |          |
| L: Without contact and sealing boot                                                                                      |             |          |          |          |           |           |          |          |          |          |
| <b>Mandatory suffix for layout 08-01 only (200°C, plug with female contact &amp; receptacle with male contact only):</b> |             |          |          |          |           |           |          |          |          |          |
| 165: With quadrax contact + backshell for heatshrink sleeving                                                            |             |          |          |          |           |           |          |          |          |          |
| L165: Without quadrax contact, with backshell for heatshrink sleeving                                                    |             |          |          |          |           |           |          |          |          |          |

### Strain relief backshell



| Layout | Material        | Part number | Mass max (g) | A $\pm 0.1$ | B Max | C $\pm 0.12$    | D     | Holes number | Thread Class 2B | Coupling torque N.m $\pm 0.5$ |
|--------|-----------------|-------------|--------------|-------------|-------|-----------------|-------|--------------|-----------------|-------------------------------|
| 18-02  | Aluminum        | 85338342    | 40           | 24.90       | 29.45 | 41.78 $\pm 1.2$ | 31.62 | 2            | 1.0625-18 UNEF  | 4.5                           |
|        | Stainless steel | 85338343    | 75           |             |       |                 |       |              |                 |                               |
| 20-04  | Aluminum        | 85338250    | 40           | 27.72       | 30.12 | 41.78 $\pm 1.2$ | 33.21 | 4            | 1.1875-18 UNEF  | 9                             |
|        | Stainless steel | 85338281    | 73           |             |       |                 |       |              |                 |                               |
| 24-04  | Aluminum        | 85338223    | 53           | 33.71       | 37.26 | 48.95 Max       | 45    | 4            | 1.4375-18 UNEF  | 9                             |
|        | Stainless steel | Consult us  | -            |             |       |                 |       |              |                 |                               |
| 28-06  | Aluminum        | 85338245    | 82           | 39.7        | 44.4  | 41.78           | 47.49 | 6            | 1.7500-18 UNS   | 10                            |
|        | Stainless steel | 85338288    | 146          |             |       |                 |       |              |                 |                               |

### Spacer



| Layout | Stainless steel |              | Aluminum    |              | ØA                | ØB Max |
|--------|-----------------|--------------|-------------|--------------|-------------------|--------|
|        | Part number     | Mass max (g) | Part number | Mass max (g) |                   |        |
| 20-04  | 8533-8388       | 88           | 8533-8387   | Consult us   | 1"3/16-18 UNEF 2A | 40     |
| 24-04  | 8533-8390       | 115          | 8533-8389   |              | 1"7/16-18 UNEF 2A | 45     |
| 28-06  | 8533-8392       | 140          | 8533-8391   |              | 1"3/4-18 UNS      | 53     |

Note: All dimensions are in millimeters (mm)



## Description

- Screw coupling connector
- EN2997 and ESC10 qualified connector
- High temperature and high vibration resistance
- Glass sealed hermetic:
  - . high hermeticity performance
  - . compact low profile
- Various mounting styles:
  - . compact solder mount receptacle
  - . easy to install square flange receptacle
  - . easy to replace jam nut receptacle
- Fully interchangeable with MIL 83723 hermetic connectors
- Special fuel tank versions
- 230V qualified versions where higher voltage is used to reduce cable weight

## Technical features

### Mechanical

- **Shell:**
  - . Passivated Stainless steel
- **Seals:**
  - . Silicone elastomer
- **Contact:**
  - . Ferrous alloy
- **Contact plating:**
  - . Gold
- **Shock:**
  - . 300 m/s<sup>2</sup> (30g) during 3 ms
- **Endurance:**
  - . 500 mating/unmating operations
- **Vibration:**
  - . Random 5 Hz to 2000 Hz at 1G<sup>2</sup>/Hz (2 x 8 hours)

### Electrical

- **Max current rating per contact:**

| Contact size | 20 | 16 | 12 | 6  | 4  |
|--------------|----|----|----|----|----|
| Rating (A)   | 5  | 10 | 17 | 46 | 60 |

- **Dielectric withstanding voltage:**

| Altitude  | Service I |
|-----------|-----------|
| Sea level | 1500 Vrms |
| 15 000 m  | 600 Vrms  |
| 21 000 m  | 400 Vrms  |
| 33 000 m  | 200 Vrms  |

- **Contact resistance at rated current:**
  - . Maximum initial contact resistance at ambient temperature

| Contact size  | 20 | 16  | 12 | 6 | 4 |
|---------------|----|-----|----|---|---|
| Resistance mΩ | 12 | 8.5 | 5  | 2 | 2 |

### Environmental

- **Operating temperature:**
  - . Class Y : -65°C to 200°C
  - . Class YE : -65°C to 260°C cyclic
- **Hermeticity:**
  - . Leak rate <10<sup>-7</sup> atm.cm<sup>3</sup>/s (helium gas test)
- **Damp heat:**
  - . As per EN 2997 and NFL 54143: 10 cycles of 24h
- **Salt spray:**
  - . 500 hours
- **Resistance to fluids:**
  - . MIL-H 5606 - SKYDROL 500 B4 - LD4 - JP5 - MIL-L 7870A - MIL-L 23699 - MIL-L 7808 - MIL-C 25769 - MIL-A 8243
- **Fuel immersion version:**
  - . 105°C max
  - . As per PrEN3645

## Ordering information

### SOURIAU part numbers

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |      |   |   |    |    |   |   |   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---|---|----|----|---|---|---|
| Basic series                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 8533 | 1 | Y | 10 | 05 | P | N | - |
| <b>Shell type:</b><br>1: Solder mount receptacle<br>2: Square flange receptacle<br>7: Jam nut receptacle                                                                                                                                                                                                                                                                                                                                                                                          |      |   |   |    |    |   |   |   |
| <b>Class:</b><br>Y: 200°C<br>YE: 260°C                                                                                                                                                                                                                                                                                                                                                                                                                                                            |      |   |   |    |    |   |   |   |
| <b>Shell size:</b> 08 - 10 - 12 - 14 - 16 - 18 - 20 - 22                                                                                                                                                                                                                                                                                                                                                                                                                                          |      |   |   |    |    |   |   |   |
| <b>Contact layout:</b> See page 10                                                                                                                                                                                                                                                                                                                                                                                                                                                                |      |   |   |    |    |   |   |   |
| <b>Contact type:</b><br>P: Pin                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      |   |   |    |    |   |   |   |
| <b>Orientation:</b> N - 6 - 7 - 8 - 9 - T - V - Y (see page 41)                                                                                                                                                                                                                                                                                                                                                                                                                                   |      |   |   |    |    |   |   |   |
| <b>Specification</b> (other specification: see page 40):<br><b>None:</b> Standard hermetic version (solder cup) - except for layout 20-04<br><b>112:</b> Standard hermetic version (solder cup) - for layout 20-04 only<br><b>22:</b> Hermetic fuel tank version (solder cup)<br><b>600:</b> 230V qualified connector, delivered with contacts (layouts 12-03, 14-04, 14-07 & 20-04 - orientation T & V)<br><b>A73:</b> Tin plating on contacts rear side and gold plating on contacts front side |      |   |   |    |    |   |   |   |

### EN2997 qualified products

|                                                                                                          |         |   |   |    |    |   |   |
|----------------------------------------------------------------------------------------------------------|---------|---|---|----|----|---|---|
| Basic series                                                                                             | EN 2997 | Y | 0 | 08 | 03 | M | N |
| <b>Class:</b><br>Y: 200°C<br>YE: 260°C                                                                   |         |   |   |    |    |   |   |
| <b>Shell type:</b><br>0: Square flange receptacle<br>1: Solder mount receptable<br>7: Jam nut receptable |         |   |   |    |    |   |   |
| <b>Shell size:</b> 08 - 10 - 12 - 14 - 16 - 18 - 20 - 22                                                 |         |   |   |    |    |   |   |
| <b>Contact layout:</b> See page 10                                                                       |         |   |   |    |    |   |   |
| <b>Contact type:</b><br>M: Pin                                                                           |         |   |   |    |    |   |   |
| <b>Orientation:</b> N - 6 - 7 - 8 - 9 - Y (see page 41)                                                  |         |   |   |    |    |   |   |

### ESC10 qualified products

|                                                                                                          |        |    |   |    |    |   |   |   |
|----------------------------------------------------------------------------------------------------------|--------|----|---|----|----|---|---|---|
| Basic series                                                                                             | ESC 10 | YE | 1 | 08 | 03 | P | N | 0 |
| <b>Class:</b><br>YE: 260°C                                                                               |        |    |   |    |    |   |   |   |
| <b>Shell type:</b><br>1: Solder mount receptacle<br>2: Square flange receptacle<br>3: Jam nut receptable |        |    |   |    |    |   |   |   |
| <b>Shell size:</b> 08 - 10 - 12 - 14 - 16 - 18 - 20 - 22                                                 |        |    |   |    |    |   |   |   |
| <b>Contact layout:</b> See page 10                                                                       |        |    |   |    |    |   |   |   |
| <b>Contact type:</b><br>P: Pin                                                                           |        |    |   |    |    |   |   |   |
| <b>Orientation:</b> N - 6 - 7 - 8 - 9 - Y (see page 41)                                                  |        |    |   |    |    |   |   |   |
| <b>0:</b> variant identifier                                                                             |        |    |   |    |    |   |   |   |

## Dimensions

### Solder mount hermetic receptacle (Class Y & YE)



| Shell size | 8     | 10    | 12    | 14    | 16    | 18    | 20    | 22    | 24    |
|------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| ØA Max     | 18.36 | 21.59 | 26.80 | 27.94 | 30.99 | 34.39 | 37.34 | 40.64 | 43.68 |
| ØB Max     | 14.29 | 17.46 | 22.22 | 23.81 | 26.99 | 30.16 | 33.34 | 36.51 | 39.69 |
| ØC Max     | 12.70 | 14.27 | 19.05 | 20.62 | 23.80 | 26.97 | 30.15 | 33.32 | 36.50 |

### Jam nut hermetic receptacle (Class Y & YE)



| Shell size                                                      | 8     | 10    | 12    | 14    | 16    | 18    | 20    | 22    | 24    |
|-----------------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| A Max                                                           | 21.06 | 24.23 | 29.01 | 30.61 | 33.76 | 36.96 | 40.11 | 43.31 | 46.46 |
| B Max                                                           | 24.89 | 28.04 | 32.79 | 35.33 | 38.51 | 41.68 | 44.86 | 49.63 | 52.81 |
| ØC Max                                                          | 27.38 | 30.28 | 35.05 | 38.51 | 41.68 | 44.86 | 49.63 | 52.78 | 55.42 |
| ØD Max                                                          | 14.29 | 17.46 | 22.22 | 23.81 | 26.99 | 30.16 | 33.34 | 36.51 | 39.69 |
| E Max                                                           | 3.48  |       |       |       |       |       |       | 3.76  |       |
| Tightening torque of attachment nut<br>Torque in N.m $\pm 10\%$ | 7     | 10    | 12    | 15    | 18    | 22    | 25    | 27    | 29    |

Note: All dimensions are in millimeters (mm)

## Dimensions

### Square flange hermetic receptacle (Class Y & YE)



| Shell size | 8     | 10    | 12    | 14    | 16    | 18    | 20    | 22    | 24    |
|------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Ø A Max    | 14.27 | 17.67 | 22.22 | 23.77 | 26.97 | 30.15 | 33.32 | 36.49 | 39.67 |
| Ø B Max    | 12.70 | 14.27 | 19.05 | 20.62 | 23.80 | 26.97 | 30.15 | 33.82 | 36.50 |
| C Max      | 20.75 | 23.93 | 26.32 | 28.71 | 31.88 | 34.24 | 36.63 | 39.80 | 43.36 |
| D          | 15.09 | 18.26 | 20.62 | 23.01 | 24.61 | 26.97 | 29.36 | 31.75 | 34.92 |
| E Max      | 3.30  |       |       |       |       |       |       |       | 3.91  |

### Panel cut out

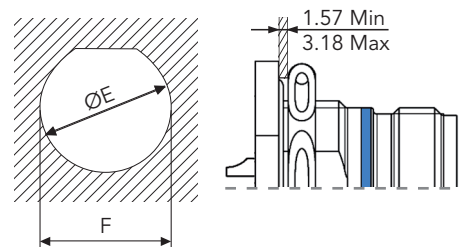
Type 1  
Solder mount receptacle



Type 2  
Square flange receptacle



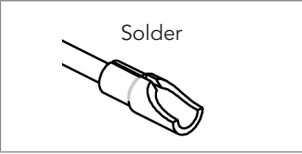
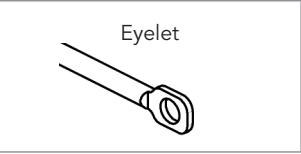
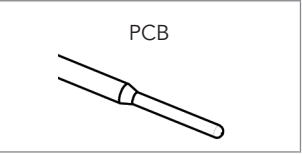
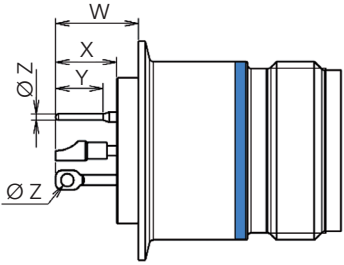
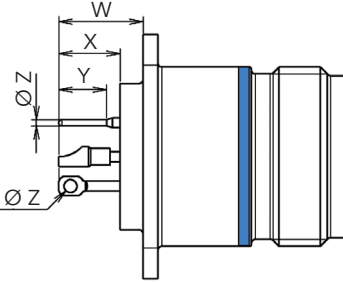
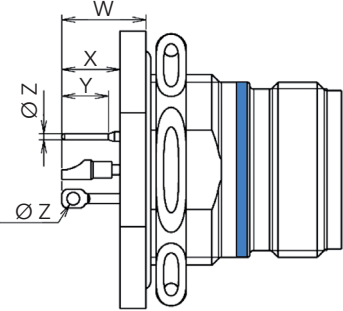
Type 7  
Jam nut receptacle



| Shell size | 8     | 10    | 12    | 14    | 16    | 18    | 20    | 22    | 24    | 28    |
|------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| ØA Min     | 12.96 | 14.53 | 19.30 | 20.88 | 24.05 | 27.23 | 30.40 | 33.58 | 36.75 | -     |
| B min      | 15.8  | 18.7  | 23.4  | 24.9  | 28.3  | 31.1  | 34.5  | 37.5  | 40.6  | 48    |
| C          | 3.2   |       |       |       |       |       |       |       | 3.8   |       |
| D          | 15.09 | 18.26 | 20.62 | 23.01 | 24.61 | 26.97 | 39.36 | 31.75 | 34.92 | 39.67 |
| E          | 16.00 | 19.17 | 23.92 | 25.52 | 28.70 | 31.87 | 35.05 | 38.22 | 41.40 | -     |
| F          | 15.24 | 18.41 | 23.16 | 24.76 | 27.94 | 30.99 | 34.16 | 37.33 | 40.51 | -     |

Note: All dimensions are in millimeters (mm)

Contact variations

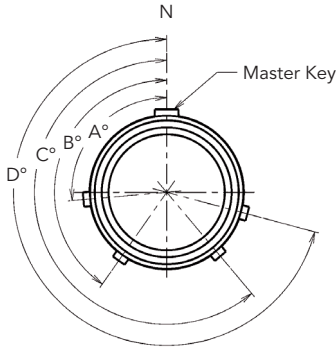
| Contact variations summary                                                        |                                           |                                                                                   |       |                                                                                     |                |                                                        |                                            |
|-----------------------------------------------------------------------------------|-------------------------------------------|-----------------------------------------------------------------------------------|-------|-------------------------------------------------------------------------------------|----------------|--------------------------------------------------------|--------------------------------------------|
| Contact variations                                                                |                                           |                                                                                   |       |                                                                                     |                |                                                        |                                            |
|  |                                           |  |       |   |                |                                                        |                                            |
|  |                                           |  |       |  |                |                                                        |                                            |
| Type 1: Solder mount receptacle                                                   |                                           | Type 2: Square flange receptacle                                                  |       | Type 7: Jam nut receptacle                                                          |                |                                                        |                                            |
| Type of contact                                                                   | Specification                             | Contact size                                                                      | W Max | X Min                                                                               | Y Min          | Ø Z Max                                                | Designation                                |
| PCB contacts                                                                      | 05                                        | 20                                                                                | 8.78  | 4.78                                                                                | 4.50           | 0.65                                                   | PCB contact                                |
|                                                                                   | 118                                       | 20                                                                                | 10.88 | 6.88                                                                                | 6.25           | 0.65                                                   | Long PCB contact                           |
| Eyelet contacts                                                                   | 105                                       | 20                                                                                | 6.98  | 2.98                                                                                | 4.05 $\pm$ 0.2 | 1.25 $\begin{smallmatrix} 0 \\ 0.15 \end{smallmatrix}$ | Eyelet contact                             |
| Solder cup contacts                                                               | Without specification or specification 22 | 20-16-12                                                                          | 7.78  | 2.98                                                                                | -              | -                                                      | Standard Solder cup contact                |
|                                                                                   | 112                                       | 6                                                                                 | 9.03  | 5.13                                                                                | -              | -                                                      |                                            |
|                                                                                   | 62                                        | 20-16-12                                                                          | 7.78  | 2.98                                                                                | -              | -                                                      | Solder cup contact tin plated on rear part |

Note: for other contact length, please consult us.

Note: All dimensions are in millimeters (mm)

## Orientation

| Orientation |  |  |  |  |  |  |  |  |  |
|-------------|--|--|--|--|--|--|--|--|--|
|-------------|--|--|--|--|--|--|--|--|--|



Front face view of receptacle

| Shell size      | Angles | N   | 6   | 7   | 8   | 9   | T   | V   | Y   |
|-----------------|--------|-----|-----|-----|-----|-----|-----|-----|-----|
| 08              | A°     | 105 | 102 | 80  | 35  | 64  |     |     |     |
|                 | B°     | 140 | 132 | 118 | 140 | 155 | -   | -   | -   |
|                 | C°     | 215 | 248 | 230 | 205 | 234 |     |     |     |
|                 | D°     | 265 | 320 | 312 | 275 | 304 |     |     |     |
| 10              | A°     | 105 | 102 | 80  | 35  | 64  |     |     | 25  |
|                 | B°     | 140 | 132 | 118 | 140 | 155 | -   | -   | 115 |
|                 | C°     | 215 | 248 | 230 | 205 | 234 |     |     | 220 |
|                 | D°     | 265 | 320 | 312 | 275 | 304 |     |     | 270 |
| 12 & 14         | A°     | 105 | 18  | 92  | 84  | 24  | 55  | 50  | 98  |
|                 | B°     | 140 | 149 | 152 | 152 | 135 | 145 | 156 | 152 |
|                 | C°     | 215 | 192 | 222 | 204 | 199 | 228 | 218 | 268 |
|                 | D°     | 265 | 259 | 342 | 334 | 240 | 280 | 290 | 338 |
| 20              | A°     | 105 | 18  | 92  | 84  | 24  | 45  | 60  | 98  |
|                 | B°     | 140 | 149 | 152 | 152 | 135 | 160 | 165 | 152 |
|                 | C°     | 215 | 192 | 222 | 204 | 199 | 210 | 235 | 268 |
|                 | D°     | 265 | 259 | 342 | 334 | 240 | 300 | 285 | 338 |
| 16, 18, 22 & 24 | A°     | 105 | 18  | 92  | 84  | 24  |     |     | 98  |
|                 | B°     | 140 | 149 | 152 | 152 | 135 | -   | -   | 152 |
|                 | C°     | 215 | 192 | 222 | 204 | 199 |     |     | 268 |
|                 | D°     | 265 | 259 | 342 | 334 | 240 |     |     | 338 |

## Connector weights (in grams)

| Shell size | Square flange receptacle | Jam nut receptacle | Solder mount receptacle |
|------------|--------------------------|--------------------|-------------------------|
| 08         | 18                       | 29                 | 15                      |
| 10         | 24                       | 37                 | 21                      |
| 12         | 31                       | 50                 | 31                      |
| 14         | 40                       | 58                 | 35                      |
| 16         | 49                       | 72                 | 46                      |
| 18         | 54                       | 79                 | 51                      |
| 20         | 62                       | 87                 | 59                      |
| 22         | 77                       | 108                | 73                      |
| 24         | 88                       | 122                | 86                      |

## Cross reference list

| SOURIAU            | MIL 83723            |
|--------------------|----------------------|
| 85332Y • • • • P □ | M83723/88Y • • • • □ |
| 85337Y • • • • P □ | M83723/89Y • • • • □ |
| 85331Y • • • • P □ | M83723/90Y • • • • □ |

• • • • Shell size & layout □ Orientation

# 853 SERIES

# Common Section

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## Introduction

- SOURIAU's fire wall contacts offer covers a wide range of performances within the scope of high temperatures and high vibrations constraints.
- Each type has been qualified and validated by either major qualification organizations or major aerospace manufacturers:
  - Size 12, 16 & 20 signal contacts: EN3155 and ESC30 qualified
  - Size 12, 16 & 20 thermocouple contacts: EN3155 and ESC30 qualified
- SOURIAU also provides any tool or accessory necessary for harnessing (crimping tool, insertion and extraction tool,...) or for test benches (dummy receptacles,...)

## Signal & power contacts

### Crimp contacts 175°C and 200°C

| Contact size | Type         | Part numbers  |                | Code          | Admissible wire section |           | External Ø over insulator |      | Mass g (±15%) |        |
|--------------|--------------|---------------|----------------|---------------|-------------------------|-----------|---------------------------|------|---------------|--------|
|              |              | Pin           | Socket         |               | AWG                     | mm²       | Min.                      | Max. | Pin           | Socket |
| 20           | Standard     | 8526-1348     | 8526-1344 900  | Red/red       | 24-20                   | 0.25-0.60 | 0.85                      | 2.10 | 0.24          | 0.29   |
|              | Small barrel | 8525-7256 900 | 8525-7750 900  | Red/green     | 22-26                   | 0.15-0.40 | 0.85                      | 2.10 | 0.24          | 0.29   |
|              | Large barrel | 8522-2349 A   | 8520-292       | Red/brown     | 24-18                   | 0.25-1    | 0.85                      | 2.10 | 0.24          | 0.29   |
| 16           | Standard     | 8526-1349     | 8526-1346A 900 | Blue/blue     | 20-16                   | 0.60-1.20 | 1.20                      | 2.70 | 0.53          | 0.59   |
|              | Small barrel | 8526-4175     | 8526-4176      | Blue/brown    | 24-18                   | 0.25-1    | 1.20                      | 2.70 | 0.53          | 0.59   |
|              | Large barrel | 8522-6179 A   | 8522-6180B 900 | Blue/white    | 18-14                   | 1-2       | 1.20                      | 2.70 | 0.53          | 0.59   |
| 12           | Standard     | 8526-1350     | 8526-1347A 900 | Yellow/yellow | 16-12                   | 1.20-3    | 1.90                      | 4.01 | 1.15          | 1.28   |
|              | Small barrel | 8526-5041     | 8526-5591A 900 | Yellow/brown  | 24-18                   | 0.25-1    | 1.90                      | 4.01 | 1.15          | 1.28   |
|              | Large barrel | 8526-4136 900 | 8526-4138A 900 | Yellow/brown  |                         | 3-4       | 1.90                      | 4.01 | 1.15          | 1.28   |
| 4            | Small barrel | 8533-8202     | 8533-8171      | Blue/green    | 8-6                     | 9-14      | 6.71                      | 7.41 | 7.3           | 8.5    |
|              | Standard     | 8533-8201     | 8533-8120      | Blue/blue     | 4                       | 22        | 6.71                      | 7.41 | 7.3           | 8.5    |

### Crimp contacts 260°C

| Contact size | Type         | Part numbers  |               | Code          |       | Admissible wire section |           | External Ø over insulator |      | Mass g (±15%) |        |
|--------------|--------------|---------------|---------------|---------------|-------|-------------------------|-----------|---------------------------|------|---------------|--------|
|              |              | Pin           | Socket        | Color bands   | Dot   | AWG                     | mm²       | Min.                      | Max. | Pin           | Socket |
| 20           | Standard     | 8533-1000 900 | 8533-1011 900 | Red/red       | White | 24-20                   | 0.25-0.60 | 0.85                      | 2.10 | 0.24          | 0.29   |
|              | Large barrel | 8533-1002 900 | 8533-1012 900 | Red/brown     | White | 24-18                   | 0.25-1    | 0.85                      | 2.10 | 0.24          | 0.29   |
|              | x2 crimping  | 8533-1019 900 | 8533-1018 900 | Red/green     | White | 22                      | 0.40      | -                         | 1.25 | 0.24          | 0.29   |
| 16           | Standard     | 8533-1004 900 | 8533-1005 900 | Blue/blue     | White | 20-16                   | 0.60-1.20 | 1.20                      | 2.70 | 0.53          | 0.59   |
|              | Small barrel | 8533-1008 900 | 8533-1009 900 | Blue/brown    | White | 24-18                   | 0.25-1    | 1.20                      | 2.70 | 0.53          | 0.59   |
|              | Large barrel | 8533-1006 900 | 8533-1007 900 | Blue/white    | White | 18-14                   | 1-2       | 1.20                      | 2.70 | 0.53          | 0.59   |
| 12           | Standard     | 8533-1035 900 | 8533-1036 900 | Yellow/yellow | White | 14-12                   | 2-3       | 1.90                      | 4.01 | 1.15          | 1.28   |
|              | Large barrel | 8533-1014 900 | 8533-1015 900 | Yellow/brown  | White |                         | 3-4       | 1.90                      | 4.01 | 1.15          | 1.28   |

### Crimp contacts 200°C and 260°C

| Contact size | Type         | Part numbers |           | Code        |  | Admissible wire section |     | External Ø over insulator |      | Mass g (±15%) |        |
|--------------|--------------|--------------|-----------|-------------|--|-------------------------|-----|---------------------------|------|---------------|--------|
|              |              | Pin          | Socket    | Color bands |  | AWG                     | mm² | Min.                      | Max. | Pin           | Socket |
| 6            | Standard     | 8533-8246    | 8533-8247 | Green/green |  | 6                       | 14  | 5.30                      | 5.70 | 3.6           | 4.8    |
|              | Small barrel | 8533-8272    | 8533-8273 | Green/red   |  | 8                       | 9   | 5.30                      | 5.70 | 3.6           | 4.8    |
|              | Small barrel | 8533-8248    | 8533-8249 | Green/brown |  | 10-12                   | 5-3 | 5.30                      | 5.70 | 3.6           | 4.8    |

## Thermocouple contacts (-65°C to +260°C)

### Chromel - Pin contacts (non magnetic)

| Contact size | Type         | Part numbers | Code               |               | Admissible wire section |           | External Ø over insulator |      |
|--------------|--------------|--------------|--------------------|---------------|-------------------------|-----------|---------------------------|------|
|              |              |              | Color bands        | Dot           | AWG                     | mm²       | Min.                      | Max. |
| 20           | Standard     | 8522-875     | Red/red            | Yellow/white  | 22-20                   | 0.40-0.60 | 0.85                      | 2.10 |
|              |              | 8522-875 A   | Brown/orange/green |               |                         |           |                           |      |
|              | Large barrel | 8522-3761    |                    | Yellow/yellow | 22-18                   | 0.38-0.93 | 0.85                      | 2.10 |
| 16           | Standard     | 8522-881     | Green/brown/violet | Yellow        | 20-16                   | 0.60-1.34 | 1.20                      | 2.70 |
|              |              | 8522-402     | Blue/blue          | Yellow        | 20-16                   | 0.60-1.34 | 1.20                      | 2.70 |

### Chromel - Socket contacts (non magnetic)

| Contact size | Type         | Part numbers   | Code               |               | Admissible wire section |           | External Ø over insulator |      |
|--------------|--------------|----------------|--------------------|---------------|-------------------------|-----------|---------------------------|------|
|              |              |                | Color bands        | Dot           | AWG                     | mm²       | Min.                      | Max. |
| 20           | Standard     | 8522-877 900   | Red/red            | Yellow/white  | 22-20                   | 0.40-0.60 | 0.85                      | 2.10 |
|              |              | 8522-877 A900  | Brown/yellow/brown | Yellow        |                         |           |                           |      |
|              | Large barrel | 8522-3770      |                    | Yellow/yellow | 22-18                   | 0.38-0.93 | 0.85                      | 2.10 |
| 16           | Standard     | 8522-883 900   | Green/red/red      | Yellow        | 20-16                   | 0.60-1.34 | 1.20                      | 2.70 |
|              |              | 8522-403 900   | Blue/blue          | Yellow        |                         |           |                           |      |
|              | Small barrel | 8526-5571 A900 | Blue/red           | Yellow        | 24-18                   | 0.25-1    | 1.20                      | 2.70 |

### Alumel - Pin contacts (magnetic)

| Contact size | Type         | Part numbers | Code                |             | Admissible wire section |           | External Ø over insulator |      |
|--------------|--------------|--------------|---------------------|-------------|-------------------------|-----------|---------------------------|------|
|              |              |              | Color bands         | Dot         | AWG                     | mm²       | Min.                      | Max. |
| 20           | Standard     | 8522-876     | Red/red             | Black/white | 22-20                   | 0.40-0.60 | 0.85                      | 2.10 |
|              |              | 8522-876 A   | Brown/orange/yellow | Black       |                         |           |                           |      |
|              | Large barrel | 8522-3760    |                     | Black/black | 22-18                   | 0.38-0.93 | 0.85                      | 2.10 |
| 16           | Standard     | 8522-882     | Green/brown/blue    | Black       | 20-16                   | 0.60-1.34 | 1.20                      | 2.70 |
|              |              | 8522-401     | Blue/blue           | Black       | 20-16                   | 0.60-1.34 | 1.20                      | 2.70 |

### Alumel - Socket contacts (magnetic)

| Contact size | Type         | Part numbers   | Code               |             | Admissible wire section |           | External Ø over insulator |      |
|--------------|--------------|----------------|--------------------|-------------|-------------------------|-----------|---------------------------|------|
|              |              |                | Color bands        | Dot         | AWG                     | mm²       | Min.                      | Max. |
| 20           | Standard     | 8522-878 900   | Red/red            | Black/white | 22-20                   | 0.40-0.60 | 0.85                      | 2.10 |
|              |              | 8522-878A 900  | Brown/yellow/black |             |                         |           |                           |      |
|              | Large barrel | 8522-3771      |                    | Black/black | 22-18                   | 0.38-0.93 | 0.85                      | 2.10 |
| 16           | Standard     | 8522-884 900   | Green/red/brown    | Black       | 20-16                   | 0.60-1.34 | 1.20                      | 2.70 |
|              |              | 8522-404 900   | Blue/blue          | Black       |                         |           |                           |      |
|              | Small barrel | 8526-5576A 900 | Blue/red           | Black       | 24-18                   | 0.25-1    | 1.20                      | 2.70 |

## Contact ordering information

### EN3155

| Basic Series                                                    |    | EN3155 | 004                                      | M | 20 18 | Barrel Size |     |     |     |     |     |
|-----------------------------------------------------------------|----|--------|------------------------------------------|---|-------|-------------|-----|-----|-----|-----|-----|
|                                                                 |    |        |                                          |   |       | 22          | 20  | 18  | 16  | 14  | 12  |
| <b>Contact style</b> (see table beside):                        |    |        |                                          |   |       |             |     |     |     |     |     |
| 004: 260°C standard male                                        |    |        | 054: Thermocouple Ni Al male (alumel)    |   |       |             | 004 | 004 |     |     |     |
| 005: 260°C standard female                                      |    |        | 055: Thermocouple Ni Al female (alumel)  |   |       | 018         | 005 | 005 |     |     |     |
| 018: 200°C standard male                                        |    |        | 056: Thermocouple Ni Cr male (chromel)   |   |       | 019         | 018 | 018 |     |     |     |
| 019: 200°C standard female                                      |    |        | 057: Thermocouple Ni Cr female (chromel) |   |       | 044         | 019 | 019 |     |     |     |
| 044: 260°C double crimping male                                 |    |        |                                          |   |       | 045         | 054 | 054 |     |     |     |
| 045: 260°C double crimping female                               |    |        |                                          |   |       |             | 055 | 055 |     |     |     |
|                                                                 |    |        |                                          |   |       |             | 056 | 056 |     |     |     |
|                                                                 |    |        |                                          |   |       |             | 057 | 057 |     |     |     |
| <b>Contact type:</b>                                            |    |        |                                          |   |       |             |     |     |     |     |     |
| M: Male                                                         |    |        |                                          |   |       |             |     |     |     |     |     |
| F: Female                                                       |    |        |                                          |   |       |             |     |     |     |     |     |
| <b>Contact size: 20, 16, 12</b>                                 |    |        |                                          |   |       |             |     |     |     |     |     |
| <b>&amp; Barrel size: 22, 20, 18, 16, 14, 12</b>                |    |        |                                          |   |       |             |     |     |     |     |     |
| see table beside for allowed values according to contact styles |    |        |                                          |   |       |             |     |     |     |     |     |
| <b>Contact Size</b>                                             | 20 |        |                                          |   |       |             |     |     |     |     |     |
|                                                                 | 16 |        |                                          |   |       |             |     | 004 | 004 | 004 |     |
|                                                                 | 12 |        |                                          |   |       |             |     | 018 | 018 | 018 | 004 |

Note: Color bands according to ISO8843.

### ESC30

| Basic Series                    | ESC30 | P | 20 | NA |
|---------------------------------|-------|---|----|----|
| <b>Contact type:</b>            |       |   |    |    |
| P: 260°C male contact           |       |   |    |    |
| S: 260°C female contact         |       |   |    |    |
| <b>Contact size: 20, 16, 12</b> |       |   |    |    |
| <b>Contact material :</b>       |       |   |    |    |
| NA: Nickel aluminum             |       |   |    |    |
| NC: Nickel chromium             |       |   |    |    |
| BC: Copper alloy                |       |   |    |    |

Note: All dimensions are in millimeters (mm)

## #8 Quadrax contacts

| Contact type       |        | Part numbers | Impedance | Release | T° Max |
|--------------------|--------|--------------|-----------|---------|--------|
| PC tail L= 4.45 mm | Pin    | ETH1-1137A   | 100Ω      | Rear    | 200°C  |
| PC tail L= 6.35 mm | Pin    | ETH1-1123A   | 100Ω      | Front   | 200°C  |
| Crimp              | Pin    | ETH1-1126A   | 100Ω      | Rear    | 200°C  |
|                    | Socket | ETH1-1127A   | 100Ω      | Rear    | 200°C  |



According to Airbus Standard.

Crimp contacts are unsealed. Sealing boots are available. All contacts delivered without boot.

## Sealing boots

ABS 0992 for power & quadrax contacts - Class 260°C

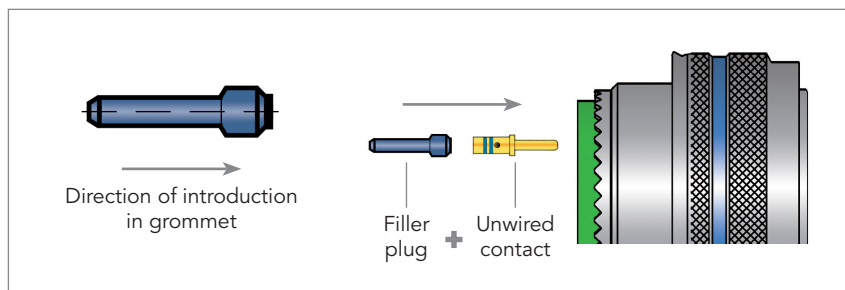
| Contact size | Cable AWG           | Cable material    | SOURIAU Part Numbers | A Max |
|--------------|---------------------|-------------------|----------------------|-------|
| 4            | 4                   | Aluminum          | 8533-8164            | 17    |
|              | 6 to 8              | Aluminum          | 8533-8191            | 17    |
|              | 4                   | Copper            | 8599-4591            | 9     |
|              | 6 to 8              | Copper            | 8533-8163            | 9     |
| 6            | 6                   | Aluminum & Copper | 8533-8296            | 24    |
|              | 8                   | Aluminum & Copper | 8533-8236            | 24    |
|              | 10 to 12            | Aluminum & Copper | 8533-8287            | 24    |
|              | Quad ABS0973 / 0974 | Copper            | 8533-8236            | 24    |



## Filler plugs

These filler plugs are installed at the rear of unwired contacts to maintain connector sealing.

| Contact size | Part numbers | Colors |
|--------------|--------------|--------|
| 20           | 8522-389A    | red    |
| 16           | 8522-390A    | blue   |
| 12           | 8522-391A    | yellow |
| 6            | 8522-2253    | white  |
| 4            | 8533-8253    | blue   |



Note: All dimensions are in millimeters (mm)

## Wiring instruction

### Cable preparation and wire stripping

| Size                                  | Contact | 20  |    | 16  |    |    | 12 |
|---------------------------------------|---------|-----|----|-----|----|----|----|
|                                       | Barrel  | 20  | 18 | 16  | 14 | 28 | 12 |
| Stripped length of cable mm $\pm 0.5$ |         | 4.5 |    | 6.8 |    |    |    |



### Insertion of wire in contact barrel



When inserting the stripped wire into the contact barrel check that no strands are left outside and that the wire is visible through the wire inspection hole in the barrel.

Important:

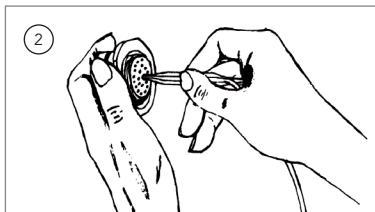
- Slide any accessories over wire strands before carrying out the following operations.
- Contacts are inserted and extracted from the rear of the connector.

### Insertion of the contacts

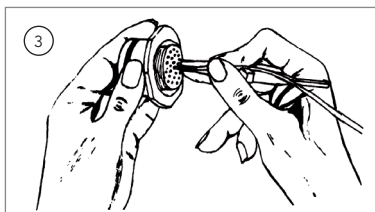
1 - Engage the crimp cable / contact assembly into the longitudinal slot of the plastic tool (colored tip). Slide the tool down the cable until the tip of the tool abuts the contact retention shoulder.



2 - Introduce the contact into the required contact cavity in the insulator, pushing tool axially, until the contact snaps into position in clip.

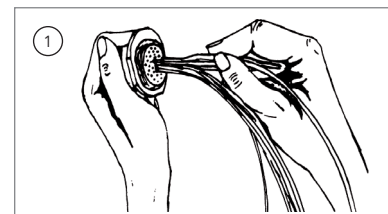


3 - Withdraw the tool from rear. Check that contact is firmly locked by pulling wire gently. When connector is fully loaded, check the position of contact tips. They should all be in the same plane.  
Note: For larger sizes of cable which are stiff enough, manual insertion without tool is preferable.

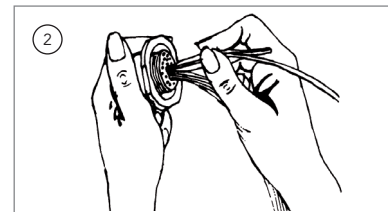


### Extraction of the contacts

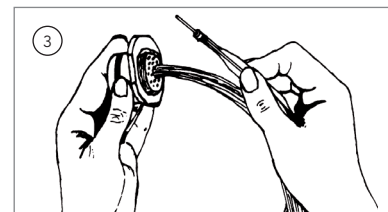
1 - Engage the appropriate cable into the longitudinal slot of the tool with the white tip towards connector.



2 - Slide the tool down towards the contact. Insert the tool in the insulator until it abuts the contact shoulder.



3 - Holding the tool-contact and cable assembly together, remove them simultaneously.

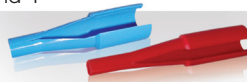


## Insertion and extraction tools

### Insertion and extraction of wired contacts

| Contact size | Part numbers | Material | Color          |
|--------------|--------------|----------|----------------|
| 20           | M81969/14-11 | Plastic  | white / red    |
| 16           | M81969/14-03 | Plastic  | white / blue   |
| 12           | M81969/14-04 | Plastic  | white / yellow |
| 6            | M81969/14-06 | Plastic  | red            |
|              | 8660-197     | Metallic | -              |
| 4            | M81969/14-07 | Plastic  | blue           |
|              | 8533-8175    | Metallic | -              |

Plastic extraction tool  
for #6 and 4



Plastic insertion and extraction tool  
for #20, 16 and 12



Metallic extraction tool



### Extraction of unwired contacts

| Contact size | Part numbers |
|--------------|--------------|
| 20           | 8522-56      |
| 16           | 8522-57      |
| 12           | 8522-58      |

Extraction tool

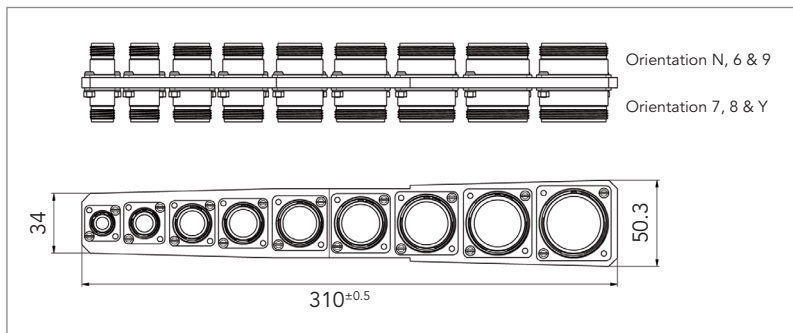


## Crimping tools

| Contact size | Wires |       | Part numbers                                      |                                                                |                    |
|--------------|-------|-------|---------------------------------------------------|----------------------------------------------------------------|--------------------|
|              | mm²   | AWG   | Crimping pliers                                   | Locator                                                        | Die set            |
| 20           | 0.93  | 18    | 8365 (M22520/1-01)<br>or<br>8476-01 (M22520/1-01) | 8365-02 (M22520/1-02)<br>or<br>8476-02 (M22520/1-02)           | -                  |
|              | 0.60  | 20    |                                                   |                                                                |                    |
|              | 0.38  | 22    |                                                   |                                                                |                    |
|              | 0.21  | 24    |                                                   |                                                                |                    |
| 16           | 1.91  | 14    | 8365 (M22520/1-01)                                | 8365-02 (M22520/1-02)                                          |                    |
|              | 1.34  | 16    |                                                   |                                                                |                    |
|              | 0.93  | 18    |                                                   |                                                                |                    |
|              | 0.60  | 20    |                                                   |                                                                |                    |
|              | 0.38  | 22    |                                                   |                                                                |                    |
| 12           | 3.18  | 12    | 8365 (M22520/1-01)                                | 8365-02 (M22520/1-02)                                          |                    |
|              | 1.91  | 14    |                                                   |                                                                |                    |
| 6            | 14    | 6     | M22520/23-01                                      | 8530-2036 (for male contact)<br>8530-2037 (for female contact) | M22520/23-02       |
|              | 9     | 8     | M22520/23-01                                      | 8530-2036 (for male contact)<br>8530-2037 (for female contact) | M22520/23-02       |
|              | 5-3   | 10-12 | M22520/23-01                                      | 8530-2036 (for male contact)<br>8530-2037 (for female contact) | WA23-112DA (23-02) |
| 4            | 9-14  | 8-6   | M22520/23-01                                      | 8533-8141 (23-11)                                              | M22520/23-02       |
|              | 22    | 4     | M22520/23-01                                      | 8533-8141 (23-11)                                              | M22520/23-04       |

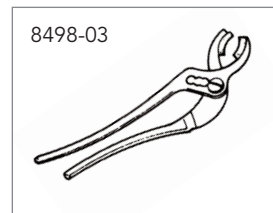
| Contact size |               | Part numbers    |             |
|--------------|---------------|-----------------|-------------|
|              |               | Crimping pliers | Locator     |
| Quadrax      | Inner contact | M22520/2-01     | K709        |
|              | Outer contact | M22520/5-01     | M22520/5-45 |

## Tightening support



Aluminum version, part number: 8533-1150 (consult us)  
Stainless steel version, part number: 8533-1151

## Backshell tightening tool



Backshell tightening plier,  
part number: 8498-03  
Square jaws (order 2 jaws),  
part number: 8500-1015

## Silicone gaskets

| Shell size | Gasket for square flange receptacle |                 | O'ring for jam nut recep. 200°C Class |          | O'ring for jam nut recep. 260°C Class |              |
|------------|-------------------------------------|-----------------|---------------------------------------|----------|---------------------------------------|--------------|
|            | Part number                         | Material        | Part number                           | Material | Part number                           | Material     |
| 08         | 85251431                            | Fluoro silicone | 8530455                               | Silicone | 85227654                              | Silicone THT |
| 10         | 85251432                            | Fluoro silicone | 85300795                              | Silicone | 85227655                              | Silicone THT |
| 12         | 85251433                            | Fluoro silicone | 8530458                               | Silicone | 85227656                              | Silicone THT |
| 14         | 85251434                            | Fluoro silicone | 8530796                               | Silicone | 85227632                              | Silicone THT |
| 16         | 85251435                            | Fluoro silicone | 8530797                               | Silicone | 85227657                              | Silicone THT |
| 18         | 85251436                            | Fluoro silicone | 8530798                               | Silicone | 85227658                              | Silicone THT |
| 20         | 85251437                            | Fluoro silicone | 85301548                              | Silicone | 85227927                              | Silicone THT |
| 22         | 85251438                            | Fluoro silicone | 8530800                               | Silicone | 85227659                              | Silicone THT |

## Grounding ring replacement kit

Please see SOURIAU Technical Bulletin BT210. Contact us.

Protective caps

Receptacle stainless steel cap

C Type



N Type



|                                                                   |      |    |   |   |    |
|-------------------------------------------------------------------|------|----|---|---|----|
| Basic Series                                                      | 8533 | KE | 3 | C | 14 |
| Class:<br>KE: 260°C                                               |      |    |   |   |    |
| Stainless steel cap for receptable                                |      |    |   |   |    |
| Type:<br>C: With chain<br>N: Without chain                        |      |    |   |   |    |
| Shell size (For other size, please consult us):<br>12, 14, 16, 20 |      |    |   |   |    |

Plug & receptacle aluminum cap with chain

Cap for receptacle



Cap for plug





|                                                                                                                          |       |    |   |    |
|--------------------------------------------------------------------------------------------------------------------------|-------|----|---|----|
| Basic Series                                                                                                             | 83723 | 21 | R | 14 |
| Cap type:<br>21: Cap for receptacle<br>22: Cap for plug                                                                  |       |    |   |    |
| Plating (Not developed for each plating, please consult us):<br>R: Nickel<br>W: Olive green cadmium<br>A: Black anodized |       |    |   |    |
| Shell size (Not developed for each size please consult us)                                                               |       |    |   |    |

Note: All dimensions are in millimeters (mm)

### Dummy receptacle stainless steel version

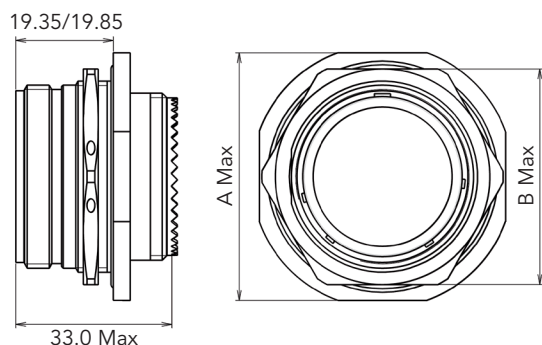


Note: Dummy receptacle without keying.

| Shell size | 08    | 10    | 12    | 14    | 16    | 18    | 20    | 22    | 24    | 28    |
|------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| A Max      | 20.75 | 23.93 | 26.32 | 28.71 | 31.88 | 34.24 | 36.63 | 39.80 | 43.39 | 50.93 |
| B          | 15.09 | 18.26 | 20.62 | 23.01 | 24.61 | 26.97 | 29.36 | 31.75 | 34.92 | 39.67 |
| Ø C Max    | 3.30  |       |       |       |       |       |       |       | 3.91  |       |

|                                                    |      |    |   |    |
|----------------------------------------------------|------|----|---|----|
| Basic Series                                       | 8533 | KE | 5 | 10 |
| Class: KE: 260°C                                   |      |    |   |    |
| 5: Dummy receptacle                                |      |    |   |    |
| Shell size: 08, 10, 12, 14, 16, 18, 20, 22, 24, 28 |      |    |   |    |

### Modelling receptacle aluminum version



| Shell size | 08    | 12    | 16    | 22    | 24    | 28    |
|------------|-------|-------|-------|-------|-------|-------|
| A Max      | 24.90 | 32.79 | 38.51 | 49.63 | 52.81 | 59.18 |
| B Max      | 21.03 | 28.96 | 33.76 | 43.31 | 48.06 | 54.48 |

|                                      |      |    |   |    |   |
|--------------------------------------|------|----|---|----|---|
| Basic Series                         | 8533 | V7 | R | 08 | N |
| V: Modelling jam nut receptacle      |      |    |   |    |   |
| R: 200°C aluminum conductive plating |      |    |   |    |   |
| Shell size: 08, 12, 16, 22, 24, 28   |      |    |   |    |   |
| Orientation: N, 6, 7, 8, 9, Y        |      |    |   |    |   |

## Coordinates information

Please consult norm.

Note: All dimensions are in millimeters (mm)

# 853 SERIES

853 Series

# Range Extension

|                                                    |    |
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## Product range extension

### 230V Connector

**The use of higher voltage to reduce cable weight has lead to the development of double voltage in un-pressurized connectors.**

**Robust design and materials:**

- . ensuring that in un-pressurized areas no partial discharge will weaken the connector.
- . each production batch is tested to ensure performance to this high level.

**No possible mismatch:**

- . specific T and V clocking to avoid mating with a non 230V qualified counterpart.

**Flexible offering:**

- . available in standard watertight as well as in hermetic connectors.
- . available in composite and stainless steel shells.



See «8533 Series 230V Connector» product news on [www.souriau.com](http://www.souriau.com)

### Fire Resistant Seal

**Secured cable routing thanks to a fire stop design. Ideal for engine & APU (Auxiliary Power Unit) for aircrafts applications.**

**Fire resistant:**

- . Ceramic insulator to enable 1100°C during 20 min.

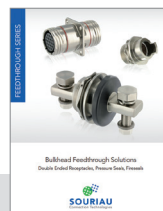
**High temperature:**

- . Perfect resistance at up to 260°C.
- . Adapted to power cable.

**Excellent vibration withstanding:**

- . Avoid cable movement under vibrations.

**Space saving compare to bulkhead connectors:**



See «Bulkhead Feedthrough Solutions» catalog on [www.souriau.com](http://www.souriau.com)

## Product range extension

### Power Contacts for PCB

**Firewall connector for power supply, adapted to PCB solutions.**

**Safe & Quick Avoid soldering of contacts:**

- . No heat applied: no risk of damaging the connector.
- . Quicker fit in the equipment.

**Robust:**

- . True mechanical link between PCB and contacts: no additional double flange needed. Power contacts are attached directly to the board with screws for an optimized connection.
- . Available in size 6 contact (Ø4.6mm) & size 4 contact (Ø5.74mm).

**Compact:**

- . Tapped contacts for direct and small sized connections, especially compared to standard lugs.



See «EN2997 Series Power Contacts for PCB» product news on [www.souriau.com](http://www.souriau.com)

### Customizable Shunted Plug

**Acting like a "car key", this device is modeling a code sequence that the engine calculator reads to authorize the starting.**

**Coding:**

- . Coding is done with contacts.
- . Some are bi-stable contacts: to open or close a circuit.

**SOURIAU advantage:**

- . Our technology provides excellent contacts retention, preventing any unexpected code change during operation.

**Range:**

- . This product is based on MIL-STD-38999 Series III derivate or EN2997 derivate.
- . Aluminum or stainless steel materials are available.

**Accessories:**

- . This connector can be delivered with a rear cap that protects the coding.



## Product range extension

### Hermetic Connector with Removable Contacts

#### Extension of the fuel immersion range.

##### High hermeticity performance:

- . Glass to metal sealing: leakage of less than  $10^{-9}$  atm.cm<sup>3</sup>/s.

##### Removable crimp contacts:

- . A technology combining crimp contacts with glass beads
- . RoHS: no lead used.
- . Long lifetime: superior to solder cup contacts in kerosene immersion.
- . Easy MRO: contact replacement.

##### Long term fuel immersion materials:

- . Performances guaranteed for minimum 90,000 hours in fuel immersion.

##### Wide Availability:

- . EN3646 (Airbus Qualified Products).
- . EN2997, EN3645, MIL-DTL-38999.



See «MIL-DTL-38999, EN3646, EN2997 Fuel Tank Connector» product news on [www.souriau.com](http://www.souriau.com)

### Filtered Connector

#### Protection of sensitive electronic components inside the equipment against any EMI or lightning interference as well as protection of signal integrity.

##### Signal Integrity principles - EMI/RFI Filter:

- . Protection of sensitive electronic components inside equipment.
- . Signal integrity (incoming data noise free / prevents noise exiting the equipment).

##### Space/weight/time saving:

- . Less electronics inside the equipment.
- . Filtered receptacles are generally standard length.

##### Excellent performance/reliability adapted to Mil-aero environments:

- . Insertion loss (attenuation) to -80dB at critical frequencies.
- . Filter ideally positioned at system entry point.
- . Tested as per MIL-STD-220.

**A complete solution:** Optional TVS functionality, Hermetic version available, 100 % ITAR free solution if required.





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[technical.americas@souriau.com](mailto:technical.americas@souriau.com) (North America)

