

# 8525 Series Hermetic Connectors



## Hermetic and Small Bayonet Connectors EN3646 Standard Qualified

Combination of pressure robustness and compactness. For sensors and space constrained applications.

**High pressure performance** ■ Glass to metal sealing.  
Helium leakage of less than  $10^{-7}$  atm.cm<sup>3</sup>/s.



Pressure resistant.

**Compact design** ■ No rear accessory thread and no grommet.



Standard Connector

Hermetic Connector

**High environmental performance** ■ Robust and corrosion resistant stainless shell.  
Rated for up to 200°C use.



## Description

- EN3646 standard qualified robust bayonet coupling according to HE302 standard
- Glass sealed hermetic
- Compact low profile - 30% shorter than the standard version
- Solder cup contacts as well as PCB contacts
- Specific fuel tank version for long term fuel immersion
- Specific large square flange option to adapt an O'ring for an improved panel to connector sealing

## Technical features

### Mechanical

- **Shell:**  
Passivated stainless steel
- **Seals:**  
Silicone elastomer
- **Contact:**  
Gold plated ferrous alloy
- **Shock:**  
As per EN3646
- **Endurance:**  
500 mating/unmating operations
- **Vibrations:**  
5Hz to 3000Hz at constant acceleration of 10g (3 x 4 hours)

### Electrical

- **Max current rating per contact:**

|              |    |    |    |
|--------------|----|----|----|
| Contact size | 20 | 16 | 12 |
| Rating (A)   | 5  | 10 | 17 |

- **Dielectric withstanding voltage:**

| Service | Sea level  | 21 000 m |
|---------|------------|----------|
| I       | 1 500 Vrms | 375 Vrms |
| II      | 2 300 Vrms | 500 Vrms |

- **Shell continuity:**  
≤ 50 mΩ

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

|               |    |    |    |
|---------------|----|----|----|
| Contact size  | 20 | 16 | 12 |
| Resistance mΩ | 12 | 8  | 5  |

### Environmental

- **Operating temperature:**  
-65°C to 200°C
- **Hermeticity:**  
10<sup>-7</sup> atm.cm<sup>3</sup>/s (helium gas test)
- **Salt spray:**  
48 hours min. as per EN3646
- **Resistance to fluids (standard):**  
As per EN3646, including fuel, hydraulic fluids and oils
- **Fuel immersion version:**  
. JP5 long term immersion  
. 105°C maximum

## Contact layouts



## Contact layouts (matrix)

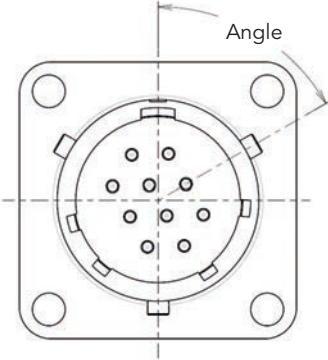
| Shell size | Layout | Hermetic 8525                           | Hermetic EN3646 | 8525 spec. 002 | 8525 spec. 022 | 8525 spec. A76 | Number of contacts |     |     |  |
|------------|--------|---|-----------------|----------------|----------------|----------------|--------------------|-----|-----|--|
|            |        |   |                 |                |                |                | #20                | #16 | #12 |  |
| 08         | 8B3A   | OK                                      | Q               | OK             | OK             |                | 3                  |     |     |  |
|            | 8B33   | OK                                      | Q               | OK             |                |                | 3                  |     |     |  |
| 10         | 10B6   | OK                                      | Q               | OK             |                |                | 6                  |     |     |  |
| 12         | 12B3   | OK                                      | Q               | OK             |                |                |                    | 3   |     |  |
|            | 12B8   | Available on request, please consult us |                 |                |                |                | 8                  |     |     |  |
|            | 12B10  | OK                                      | Q               | OK             | OK             | OK             | 10                 |     |     |  |
| 14         | 14B4   | OK                                      | Q               | OK             | OK             |                |                    |     | 4   |  |
|            | 14B5   | OK                                      | Q               | OK             |                |                |                    | 5   |     |  |
|            | 14B12  | OK                                      | Q               | OK             |                |                | 8                  | 4   |     |  |
|            | 14B15  | OK                                      | Q               | OK             |                |                | 14                 | 1   |     |  |
|            | 14B19  | OK                                      | Q               | OK             | OK             | OK             | 19                 |     |     |  |
| 16         | 16B8   | OK                                      | Q               | OK             |                |                |                    | 8   |     |  |
|            | 16B21  | OK                                      | Q               | OK             |                |                | 16                 | 5   |     |  |
|            | 16B23  | Available on request, please consult us |                 |                |                |                | 22                 | 1   |     |  |
|            | 16B26  | OK                                      | Q               | OK             | OK             |                | 26                 |     |     |  |
| 18         | 18B8   | OK                                      | Q               | OK             |                |                |                    |     | 8   |  |
|            | 18B11  | Available on request, please consult us |                 |                |                |                |                    | 11  |     |  |
|            | 18B32  | OK                                      | Q               | OK             |                |                | 32                 |     |     |  |

| Shell size | Layout | Hermetic 8525                           | Hermetic EN3646 | 8525 spec. 002 | 8525 spec. 022 | 8525 spec. A76 | Number of contacts |     |     |  |
|------------|--------|---|-----------------|----------------|----------------|----------------|--------------------|-----|-----|--|
|            |        |   |                 |                |                |                | #20                | #16 | #12 |  |
| 20         | 20B16  | OK                                      | Q               | OK             |                |                |                    | 16  |     |  |
|            | 20B34  | Available on request, please consult us |                 |                |                |                | 26                 | 8   |     |  |
|            | 20B39  | OK                                      |                 | OK             |                |                | 37                 | 2   |     |  |
|            | 20B41  | OK                                      | Q               | OK             | OK             | OK             | 41                 |     |     |  |
| 22         | 22B12  | Available on request, please consult us |                 |                |                |                |                    |     | 12  |  |
|            | 22B21  | OK                                      | Q               | OK             |                |                |                    | 21  |     |  |
|            | 22B41  | OK                                      | Q               | OK             |                |                | 27                 | 14  |     |  |
|            | 22B55  | OK                                      | Q               | OK             | OK             |                | 55                 |     |     |  |
| 24         | 24B19  | Available on request, please consult us |                 |                |                |                |                    |     | 19  |  |
|            | 24B31  | Available on request, please consult us |                 |                |                |                |                    | 31  |     |  |
|            | 24B61  | OK                                      | Q               | OK             |                |                | 61                 |     |     |  |

OK = SOURIAU's layout  
Q = SOURIAU's qualified layout

## Orientation

Polarization code



Viewed from receptacle front face.  
Insulator rotated inside metal body.

| Shell size | Layout | N | W   | X   | Y   | Z   |
|------------|--------|---|-----|-----|-----|-----|
| 08         | B3A    | 0 | 60  | 210 | -   | -   |
|            | B33    | 0 | 90  | -   | -   | -   |
| 10         | B6     | 0 | 90  | -   | -   | -   |
| 12         | B3     | 0 | 140 | 220 | 180 | -   |
|            | B10    | 0 | 60  | 155 | 270 | 295 |
| 14         | B4     | 0 | 45  | -   | -   | -   |
|            | B5     | 0 | 40  | 92  | 184 | 273 |
|            | B12    | 0 | 43  | 90  | -   | -   |
|            | B15    | 0 | 17  | 110 | 155 | 234 |
|            | B19    | 0 | 30  | 165 | 315 | -   |

| Shell size | Layout | N | W   | X   | Y   | Z   |
|------------|--------|---|-----|-----|-----|-----|
| 16         | B8     | 0 | 54  | 152 | 180 | 331 |
|            | B21    | 0 | -   | -   | -   | -   |
|            | B26    | 0 | 60  | -   | 275 | 338 |
| 18         | B8     | 0 | 180 | -   | -   | -   |
|            | B32    | 0 | 85  | 138 | 222 | 265 |
| 20         | B16    | 0 | 238 | 318 | 333 | 347 |
|            | B39    | 0 | 63  | 144 | 252 | 333 |
|            | B41    | 0 | 45  | 126 | 225 | -   |
| 22         | B21    | 0 | 16  | 135 | 175 | 349 |
|            | B41    | 0 | 39  | 135 | 264 | -   |
|            | B55    | 0 | 30  | 142 | 226 | 314 |
| 24         | B61    | 0 | 90  | 180 | 270 | 324 |

## Ordering information

### SOURIAU part numbers

|  |      |    |       |   |   |   |
|--|------|----|-------|---|---|---|
| <b>Basic series</b>  | 8525 | IH | 18B32 | P | N | H |
| <b>Shell type</b><br>IH: Solder mount receptacle<br>02H: Square flange receptacle<br>07H: Jam nut receptacle   |      |    |       |   |   |   |
| <b>Contact layout</b><br>See page 3  |      |    |       |   |   |   |
| <b>Contact type</b><br>P: Pin  |      |    |       |   |   |   |
| <b>Orientation</b><br>N, W, X, Y, Z - see previous page  |      |    |       |   |   |   |
| <b>Specification</b><br>H: Standard hermetic version<br>H002: Large flange - 02H version only<br>022: Fuel tank version<br>Other specification (PCB contacts): see page 10 |      |    |       |   |   |   |

### EN3646 qualified products

|  |        |   |   |    |    |   |   |
|--|--------|---|---|----|----|---|---|
| <b>Basic series</b>  | EN3646 | Y | 0 | 08 | 03 | M | N |
| <b>Mandatory suffix:</b><br>Y: Hermetic  |        |   |   |    |    |   |   |
| <b>Shell type:</b><br>0: Square flange receptacle<br>1: Solder mount receptacle<br>7: Jam nut receptacle |        |   |   |    |    |   |   |
| <b>Shell size:</b><br>08, 10, 12, 14, 16, 18, 20, 22, 24   |        |   |   |    |    |   |   |
| <b>Contact layout:</b><br>See page 3   |        |   |   |    |    |   |   |
| <b>Contact type:</b><br>M: Pin   |        |   |   |    |    |   |   |
| <b>Orientation:</b><br>N, W, X, Y, Z - see previous page   |        |   |   |    |    |   |   |

### Maximum connector weights (in grams)

| Shell type \ Shell size                             | 8  | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24  |
|---|----|----|----|----|----|----|----|----|-----|
| Solder mount receptacle (type IH)                   | 7  | 9  | 13 | 17 | 21 | 26 | 32 | 37 | 43  |
| Square flange receptacle (type 02H)                 | 10 | 12 | 16 | 21 | 26 | 33 | 41 | 47 | 55  |
| Large square flange receptacle (type 02H spec. 002) | 16 | 18 | 24 | 29 | 34 | 40 | 56 | 60 | 70  |
| Jam nut receptacle (type 07H)                       | 20 | 25 | 38 | 45 | 52 | 63 | 86 | 96 | 115 |

## Dimensions

### Solder mount receptacle (type IH)



| Shell size | A max | B ±0.5 | C max | D $^{+0.02}_{-0.13}$ | E ±0.14 | F max | G $^{+0.25}_{0}$ |
|------------|-------|--------|-------|----------------------|---------|-------|------------------|
| 8          | 12.02 | 11.5   | 10    | 14.27                | 0.8     | 16.1  | 14.79            |
| 10         | 14.99 | 11.5   | 10    | 17.07                | 0.8     | 19.3  | 17.59            |
| 12         | 19.05 | 11.5   | 10    | 19.84                | 0.8     | 21.7  | 20.36            |
| 14         | 22.23 | 11.5   | 10    | 23.01                | 0.8     | 24.9  | 23.53            |
| 16         | 25.4  | 11.5   | 10    | 26.19                | 0.8     | 28.1  | 26.71            |
| 18         | 28.58 | 11.5   | 10    | 29.36                | 0.8     | 31.2  | 29.88            |
| 20         | 31.75 | 13.5   | 10    | 31.75                | 0.8     | 33.8  | 32.27            |
| 22         | 34.93 | 13.5   | 11    | 34.92                | 0.8     | 36.8  | 35.42            |
| 24         | 38.1  | 13.9   | 11    | 38.1                 | 0.8     | 40    | 38.60            |



Note: All dimensions are in millimeters (mm)

Square flange receptacle (type 02H)



| Shell size | A max | B ±0.55 | C max | D <sup>+0</sup> <sub>-0.3</sub> | E                     | F max | G     | H ±0.15 | J ±0.15 | K     | L <sup>+0</sup> <sub>-0.3</sub> | M   | N max |
|------------|-------|---------|-------|---------------------------------|-----------------------|-------|-------|---------|---------|-------|---------------------------------|-----|-------|
| 8          | 12.02 | 12.65   | 8.4   | 14.3                            | 1.63 <sup>+0.28</sup> | 21.03 | 15.1  | 3.15    | 3.15    | 15.1  | 14.79                           | 3.5 | 2.3   |
| 10         | 14.99 | 12.65   | 8.4   | 17.1                            | 1.63 <sup>+0.28</sup> | 24.23 | 18.26 | 3.15    | 3.15    | 18.26 | 17.59                           | 3.5 | 2.3   |
| 12         | 19.05 | 12.65   | 8.4   | 19.9                            | 1.63 <sup>+0.28</sup> | 26.59 | 20.62 | 3.15    | 3.15    | 20.62 | 20.36                           | 3.5 | 2.3   |
| 14         | 22.23 | 12.65   | 8.4   | 23.05                           | 1.63 <sup>+0.28</sup> | 28.98 | 23.01 | 3.15    | 3.15    | 23.01 | 23.53                           | 3.5 | 2.3   |
| 16         | 25.4  | 12.65   | 8.4   | 26.25                           | 1.63 <sup>+0.28</sup> | 31.34 | 24.61 | 3.15    | 3.15    | 24.61 | 26.71                           | 3.5 | 2.3   |
| 18         | 28.58 | 12.65   | 8.4   | 29.4                            | 1.63 <sup>+0.28</sup> | 33.73 | 26.97 | 3.15    | 3.15    | 26.97 | 29.88                           | 3.5 | 2.3   |
| 20         | 31.75 | 14.25   | 9.6   | 31.8                            | 1.93 <sup>+0.58</sup> | 36.91 | 29.36 | 3.15    | 3.15    | 29.36 | 32.27                           | 3.5 | 5.4   |
| 22         | 34.93 | 14.25   | 9.6   | 35                              | 1.93 <sup>+0.58</sup> | 40.1  | 31.75 | 3.15    | 3.15    | 31.75 | 35.42                           | 3.5 | 5.4   |
| 24         | 38.1  | 15.05   | 9.6   | 38.2                            | 1.93 <sup>+0.58</sup> | 43.27 | 34.92 | 3.73    | 3.73    | 34.92 | 38.60                           | 3.5 | 5.4   |



Note: All dimensions are in millimeters (mm)

Large square flange receptacle (type 02H spec. 002)



| Shell size | A max | B max | C   |         | D max | E max | F max | G     | H   | J   | K     | L $^{+0.3}$ |
|------------|-------|-------|-----|---------|-------|-------|-------|-------|-----|-----|-------|-------------|
|            |       |       | #20 | #12/#16 |       |       |       |       |     |     |       |             |
| 8          | 12.02 | 13.14 | 6.8 | -       | 14.27 | 2.6   | 26.4  | 18.1  | 3.8 | 3.5 | 18.1  | 14.79       |
| 10         | 14.99 | 13.14 | 6.8 | -       | 17.06 | 2.6   | 28.9  | 20.62 | 3.8 | 3.5 | 20.62 | 17.59       |
| 12         | 19.05 | 13.14 | 6.8 | 7.1     | 19.83 | 2.6   | 32.1  | 23.82 | 3.8 | 3.5 | 23.82 | 20.36       |
| 14         | 22.23 | 13.14 | 6.8 | 7.1     | 23.01 | 2.6   | 34.5  | 26.18 | 3.8 | 3.5 | 26.18 | 23.53       |
| 16         | 25.4  | 13.14 | 6.8 | 7.1     | 26.18 | 2.6   | 36.8  | 28.57 | 3.8 | 3.5 | 28.57 | 26.71       |
| 18         | 28.58 | 13.14 | 6.8 | 7.1     | 29.36 | 2.6   | 38.8  | 30.55 | 3.8 | 3.5 | 30.55 | 29.88       |
| 20         | 31.75 | 15.84 | 6   | 6.3     | 31.74 | 3.4   | 42.8  | 32.94 | 3.8 | 3.5 | 32.94 | 32.27       |
| 22         | 34.93 | 15.84 | 6   | 6.3     | 34.92 | 3.4   | 44.8  | 34.92 | 3.8 | 3.5 | 34.92 | 35.42       |
| 24         | 38.1  | 16.64 | 5.2 | 5.5     | 38.09 | 3.4   | 47.9  | 38.1  | 3.8 | 3.5 | 38.1  | 38.60       |



Panel cut-out

Note: All dimensions are in millimeters (mm)



Jam nut receptacle (type 07H)



| Shell size | A max | B max | C $\pm 0.5$ | D max | E $\pm 0.25$ | F    |      | G $^{+0.25}_0$ | H $^{+0.25}_0$ |
|------------|-------|-------|-------------|-------|--------------|------|------|----------------|----------------|
|            |       |       |             |       |              | min  | max  |                |                |
| 8          | 12.02 | 18.34 | 2.4         | 27.37 | 23.82        | 1.57 | 4.75 | 14.4           | 13.48          |
| 10         | 14.99 | 18.34 | 2.4         | 30.57 | 26.97        | 1.57 | 4.75 | 17.58          | 16.66          |
| 12         | 19.05 | 18.34 | 2.4         | 35.32 | 31.75        | 1.57 | 4.75 | 22.6           | 20.8           |
| 14         | 22.23 | 18.34 | 2.4         | 38.5  | 34.92        | 1.57 | 4.75 | 25.52          | 23.95          |
| 16         | 25.4  | 18.34 | 2.4         | 41.67 | 38.1         | 1.57 | 4.75 | 28.7           | 27.1           |
| 18         | 28.58 | 18.34 | 2.4         | 44.85 | 41.27        | 1.57 | 4.75 | 31.87          | 30.27          |
| 20         | 31.75 | 23.12 | 3.2         | 49.62 | 46.02        | 1.57 | 6.35 | 35.05          | 33.45          |
| 22         | 34.93 | 23.12 | 3.2         | 52.77 | 49.22        | 1.57 | 6.35 | 38.22          | 36.62          |
| 24         | 38.1  | 23.95 | 3.2         | 55.97 | 52.37        | 1.57 | 5.56 | 41.4           | 39.8           |



Note: All dimensions are in millimeters (mm)

## Contact variations



**Type IH:** Solder mount receptacle



**Type 02H:** Square flange receptacle



**Type 07H:** Jam nut receptacle

| Type of contact   | Specification | Shell type | Contact size | W Max | X Min | Y Min | Ø Z Max |
|-------------------|---------------|------------|--------------|-------|-------|-------|---------|
| Short PCB contact | 005           | IH         | 20           | 9.1   | 4.55  | 4.5   | 0.65    |
|                   |               | 02H        | 20           | 8.4   | 3.35  | 4.5   | 0.65    |
|                   |               | 07H        | 20           | 8.05  | 3.75  | 4.5   | 0.65    |
| Long PCB contact  | 275           | IH         | 20           | 13.87 | 8.5   | 6     | 0.65    |
|                   |               | 02H        | 20           | 12.9  | 7.3   | 6     | 0.65    |
|                   |               | 07H        | 20           | 12    | 7.7   | 6     | 0.65    |

Note: All dimensions are in millimeters (mm)

## Gaskets

| Shell size | Gasket for receptacle Type 0 |                 | O ring for receptacle Type 7 |          |
|------------|------------------------------|-----------------|------------------------------|----------|
|            | Part number                  | Material        | Part number                  | Material |
| 08         | 85251431                     | Fluoro silicone | AS3582-016                   | Silicone |
| 10         | 85251432                     | Fluoro silicone | AS3582-018                   | Silicone |
| 12         | 85251433                     | Fluoro silicone | AS3582-021                   | Silicone |
| 14         | 85251434                     | Fluoro silicone | AS3582-023                   | Silicone |
| 16         | 85251435                     | Fluoro silicone | AS3582-025                   | Silicone |
| 18         | 85251436                     | Fluoro silicone | AS3582-027                   | Silicone |
| 20         | 85251437                     | Fluoro silicone | AS3582-029                   | Silicone |
| 22         | 85251438                     | Fluoro silicone | AS3582-030                   | Silicone |
| 24         | 85251439                     | Fluoro silicone | AS3582-031                   | Silicone |

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