



Compact Circular Connectors

Derived from MIL-DTL-38999 & JN1003

8STA/8TA Series



Presentation

SOURIAU is a recognized worldwide market leader in the design and manufacture of connectors and interconnect systems for harsh environments.

The relationship between the company and the motorsport industry goes back many years.

SOURIAU's main production facility is located in Le Mans and since 1990 we supply connectors to local racing teams for the world famous 24 Hours Endurance Racing.

The **Motorsport** activity is a market where more and more electronics are installed and where space and weight constraints become more critical. **8STA** and **8TA Series** are designed to be smaller and lighter with high reliability features to protect the driver and are used across the world of motorsport on 2 and 4 wheels.

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

Contents

Overview

Typical applications	6
Features & Benefits	7
8STA/8TA Series product overview	8
Custom solutions	9
Contact layouts	10

Standard Series

8STA Series shell sizes 02, 04 & 06	16
8STA Series shell sizes 08 to 24	19
8TA Series compact low profile	23
8STA Series PC Tail contacts	26
8STA Series power contacts	29
8STA Series coax contacts	32
8STA Series high density #26 contacts	34

Derived Series

Integrated clinch nuts	38
Single hole fixing	40
Quick release for steering boss system	42

Blind mating plug	44
Hermetic shell size 02	46
Hermetic fuel tank	48
Hermetic feed-through	50
Fuel immersible	52

Common Section

Contacts	56
Wiring instructions	57
Filler plugs, Tooling	58
Boots, Shrinkable termination detail	59
Metal protective caps	60
Nut plates, Gaskets	61

Range Extension

209 Series	64
High power contacts	64
Composite connectors	65
micro38999 Series break away	65
microComp® Series	66
8D8/8D Series	66

8STA/8TA SERIES

8STA/8TA Series

Overview

■ Typical applications	6
■ Features & Benefits	7
■ 8STA/8TA Series product overview	8
■ Custom solutions	9
■ Contact layouts	10

Typical applications



Engine



Sensors



Steering Wheel



Telemetry & Network



Fuel Tank



ERS / Power Distribution



Features & Benefits

ROBUST

Compact and Reliable

Compact circular range derived from MIL-DTL-38999 and JN1003. Smallest removable contacts connector on the market: shell size 02. Withstand high levels of shock and vibration in harsh environments.

ALL IN ONE

Integrated Backshell

Cost effective. Space and weight saving. Right angle and straight version available. Easy to implement with heat shrink boot.

SEALED

Environmental Resistant

Grommet and interfacial seal as MilAero products, IP67. 500 mating/unmating endurance. Withstands most of motorsport fluids.

EASY TO USE

User Friendly

Quick bayonet locking: 1/3 turn to mate. Secure mating with audible clic and visual color indication. Up to 7 color coded keyway orientations.

LARGE OFFER

A Complete Range

Signal, power, coax and concentric twinax contacts. 12 shell sizes: from size 02 up to size 24. More than 100 contact layouts. Many derived products.

A wide product range



Aluminum

- **Black Zinc** Conductive
- **Nickel** RoHS

Stainless Steel

- **Passivated** RoHS

Composite

- Without plating



Reliable

MIL-DTL-38999 and **JN1003** derived

Compacty

Miniature sizes 02, 04, 06
Low profile version

High sealing solutions

Hermetic version
Fuel immersible version



Adaptability

Crimp / Solder / PC Tail

Versatility

Signal / Power / Coax
Concentric twinax

High density

#26 contact layouts

8STA/8TA Series comparison

8STA Series

Dedicated Characteristics

- Derived from **MIL-DTL-38999, JN1003** and **VG96912 Standard**
- **Miniature sizes** 02, 04, 06
Up to **shell size 24**
- **Scoop proof**
- **Nickel** plating

8STA/8TA Series

Common Characteristics

- Optimized **oval flange**
- **Conductive** black zinc or nickel plating
- **Rugged aluminum body** to ensure long service life in the harshest environments
- **Color-coded** keyway

8TA Series

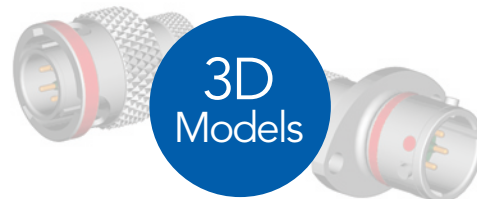
Dedicated Characteristics

- Derived from **MIL-DTL-38999 Series 2**
- Compact **low profile**

SOURIAU services



High levels of finished connector stock from our **worldwide distributors**



3D models **available online** on www.souriau.com
Registration is quick and the **downloads are free!**

Custom solutions

Let your need take the lead! Due to the constant innovative needs from the Motorsport market, **SOURIAU** is dedicated to produce derived products on demand.

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

Continuing on with this theme, several new products can be found in this catalogue, including receptacles with **integrated clinch nuts** eliminating the need for nut plates, connector designed for **steering boss system** for column using, **single hole fixing** solution for space and weight saving and 8STA **High Density** with pin contacts normally associated with much larger connectors.

Let's have a look on the latest **SOURIAU** innovations:

COAX CONTACTS [see p.32](#)



High frequency transmission

HIGH DENSITY [see p.34](#)



#26 removable contacts

CLINCH NUTS [see p.38](#)



Space and weight saving

SINGLE HOLE FIXING [see p.40](#)



Space and weight saving

STEERING BOSS SYSTEM [see p.42](#)



Designed for column using

BLIND MATING PLUG [see p.44](#)



Hard-to-reach areas solution

HERMETIC SIZE 02 [see p.46](#)



Weld mounting compact design

HERMETIC FEED-THROUGH [see p.50](#)



Solder contacts on both sides of bulkhead

THERMAL PROTECTION

A global solution with our sister company
DARCHEM ENGINEERING

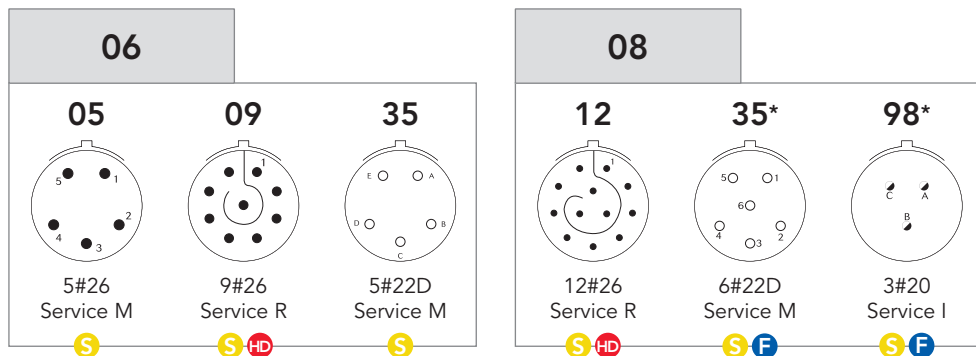
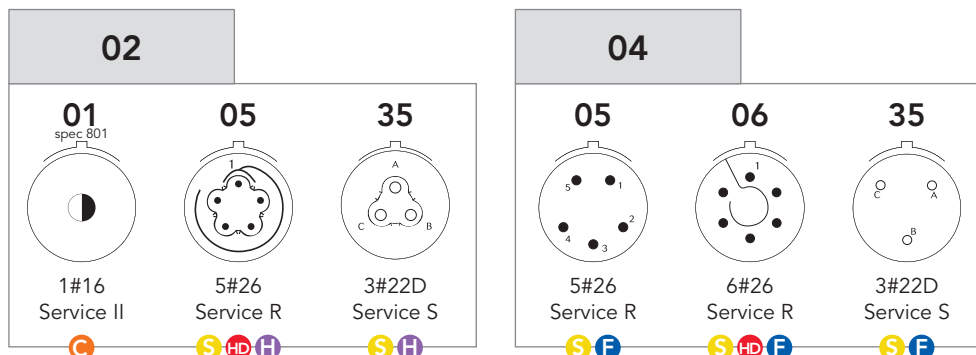
Esterline
Engineered Materials

[Click here for more information](#)

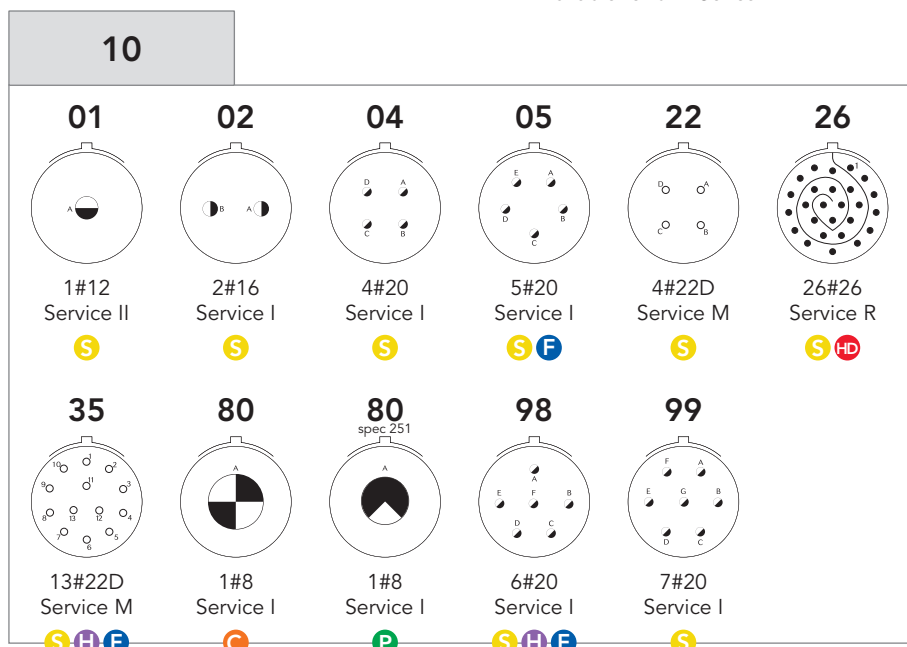
Contact layouts

S Signal P Power C Concentric Twinax (=Triax) or Coax HD High Density H Hermetic version developed F Fuel Immersible version developed

Contact sizes #26 #22D #20 #16 #12 #8 Coax or Concentric Twinax - consult us #8 Power #4 Power



* Available for 8TA Series



Size 02: Marking on shell.

Rear view of receptacle for male and female insulator. Opposite marking between plug and receptacle.

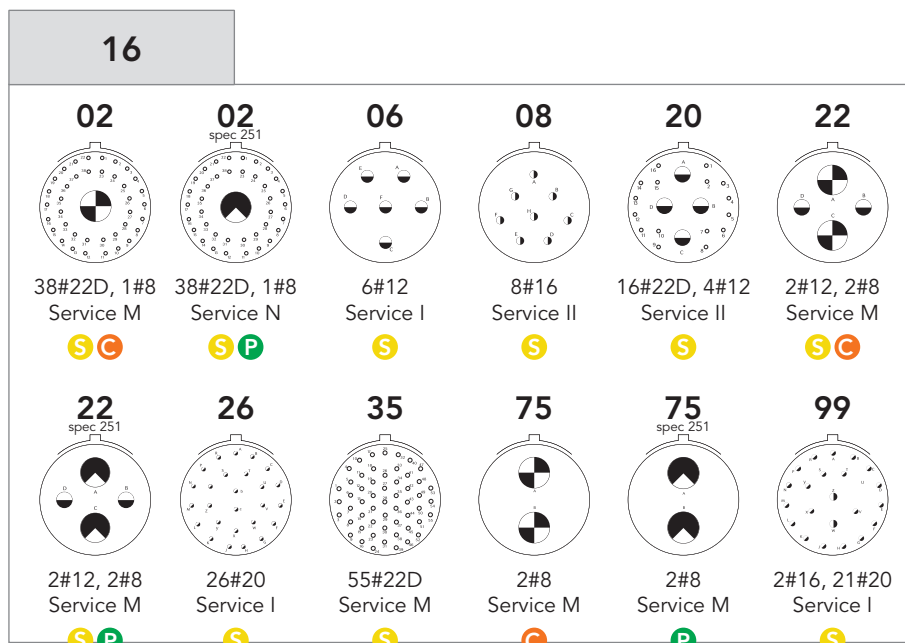
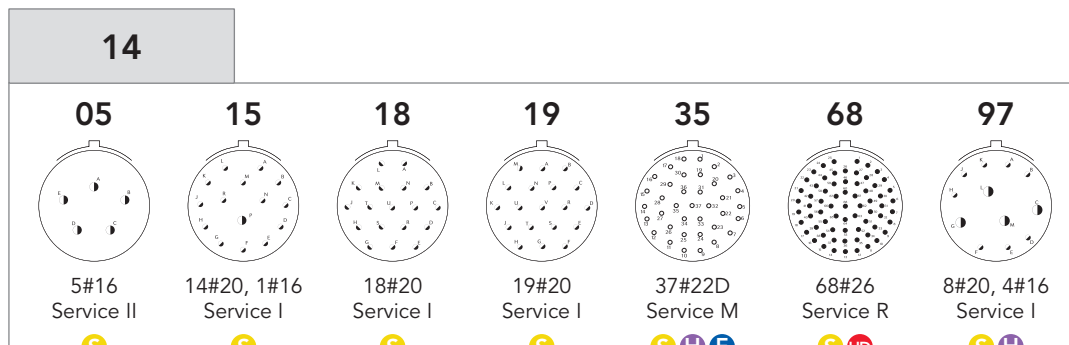
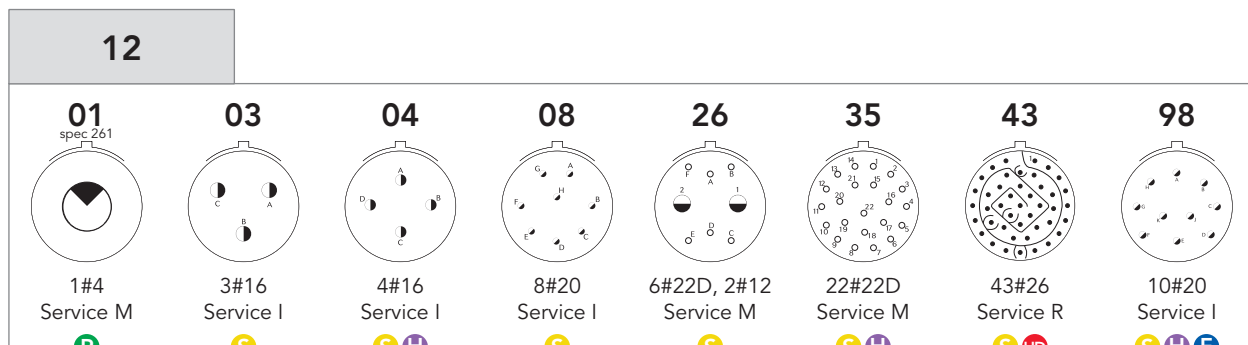
Sizes 04 to 24: Marking on insulator.

Front view of male insulator for plug and receptacle. Opposite marking between male and female insulator.

Contact layouts

S Signal P Power C Concentric Twinax (=Triax) or Coax HD High Density H Hermetic version developed F Fuel Immersible version developed

Contact sizes #26 #22D #20 #16 #12 #8 Coax or Concentric Twinax - consult us #8 Power #4 Power

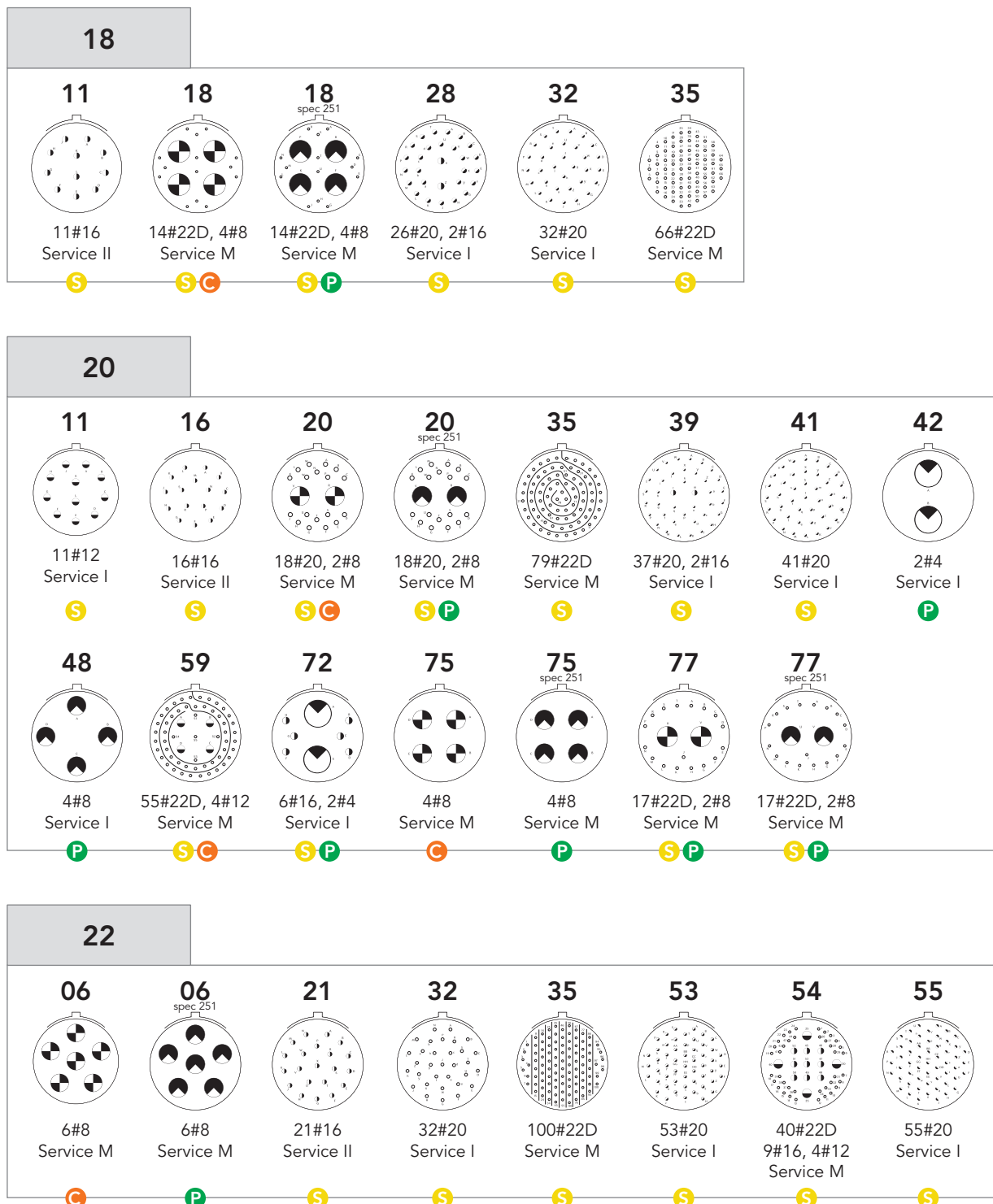


Sizes 04 to 24: Marking on insulator.
 Front view of male insulator for plug and receptacle. Opposite marking between male and female insulator.

Contact layouts

S Signal **P** Power **C** Concentric Twinax (=Triax) or Coax

Contact sizes ● #26 ○ #22D ◐ #20 ◑ #16 ◒ #12 ◓ #8 Coax or Concentric Twinax - consult us ◔ #8 Power ◕ #4 Power

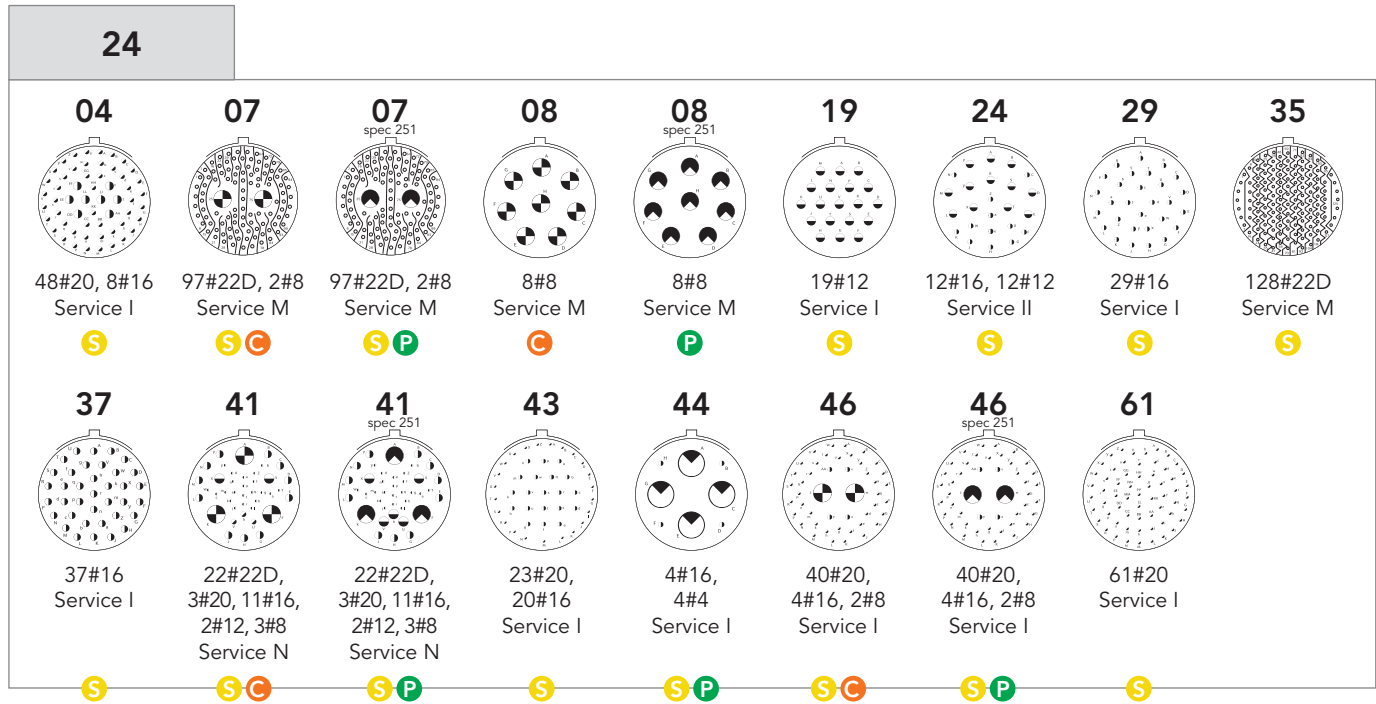


Sizes 04 to 24: Marking on insulator.
Front view of male insulator for plug and receptacle. Opposite marking between male and female insulator.

Contact layouts

S Signal **P** Power **C** Concentric Twinax (=Triax) or Coax

Contact sizes ● #26 ○ #22D ◐ #20 ◑ #16 ◒ #12 ◓ #8 Coax or Concentric Twinax - consult us ◔ #8 Power ◕ #4 Power



Test voltage rating (Vrms)

Service	Sea level	at 21 000 m
R	400	N/A
S	1,000	N/A
M	1,300	800
N	1,000	600
I	1,800	1,000
II	2,300	1,000

Sizes 04 to 24: Marking on insulator.

Front view of male insulator for plug and receptacle. Opposite marking between male and female insulator.

8STA/8TA SERIES

8STA/8TA Series

Standard Ranges

■ 8STA Series - Miniature shell sizes 02, 04 & 06	16
■ 8STA Series - Shell sizes 08 to 24	19
■ 8TA Series - Compact low profile	23
■ 8STA Series - PC Tail contacts	26
■ 8STA Series - Power contacts	29
■ 8STA Series - Coax contacts.....	32
■ 8STA Series - High density #26 contacts.....	34

Description

- Ultra compact design & very lightweight connector
- Rugged aluminium body to ensure long service life in the harshest environment
- Positive locking mechanism with locked colour indicators
- Scoop proof
- 7 color-coded keyway orientations
- Boot termination feature
- PCB option available
- Conductive black zinc or nickel plating



Technical features

Mechanical

- **Shell:**
Aluminium alloy
Glass fibre loaded plastic - composite (shell size 06 only)
- **Shell plating:**
Aluminum: Conductive Black Zinc
Nickel (F)
Composite without plating (X)
- **Insulator:** Thermoplastic
- **Grommet & seal:** Liquid silicone rubber
- **Contact:** Copper alloy
- **Contact plating:** Gold
- **Endurance:** 500 mating cycles
- **Shock:** 300g for 3ms and EIA-364-27
- **Vibration:** 147m/s², 10 to 2000Hz
- **Contact retention:**
35 N (size 26)
45 N (size 22D)

Electrical

- **Test voltage:**
Size 26: 400 Vrms
Size 22D: 1000 Vrms (shell size 02 & 04)
1300 Vrms (shell size 06)
- **Contact resistance:**
Size 26: <16 mΩ
Size 22D: <14.6 mΩ
- **Insulation resistance:**
≥ 5000MΩ @ 400Vdc / Size 26
≥ 5000MΩ @ 500Vdc / Size 22D
- **Contact rating:**
Size 26: 3 Amp
Size 22D: 5 Amp

Environmental

- **Operating temperature:**
-55°C to +175°C
- **Sealing mated connectors:**
IP67 (1 metre for 30 min minimum)
- **Salt spray:**
Aluminum: 48 hours
Composite: 500 hours

Ordering information

Basic series	8STA	0		04	05	P	N
Shell type	0: Oval flange receptacle - PCB version available, please see p.XX 1: In-line receptacle 6: Plug 7: Jam nut receptacle (consult us)						
Material & Plating	empty: Aluminum conductive Black zinc F: Aluminum Nickel X: Composite without plating (shell size 06 only)						
Shell size	02, 04, 06						
Contact layout	See page 10						
Type of contact	P: Pin S: Socket						
Orientation	N: Red / A: Yellow / B: Blue / C: Orange / D: Green / E: Grey (shell size 02 only) / U: Universal (aluminum alloy only)						
Specification	None: Standard version 499: Integrated nut on the flange - M2 insert (only for shell type 0 and 2) - for more details, please see page 38 528: Integrated nut on the flange - M2.5 insert (only for shell type 0 and 2) - for more details, please see page 38 562: PCB version - for more details, please see page 26 022: Fuel immersible version (shell sizes 04 and 06 only) - for more details, please see page 52						

www.tracepartsonline.net
**FREE 3D MODELS
 AVAILABLE ONLINE**

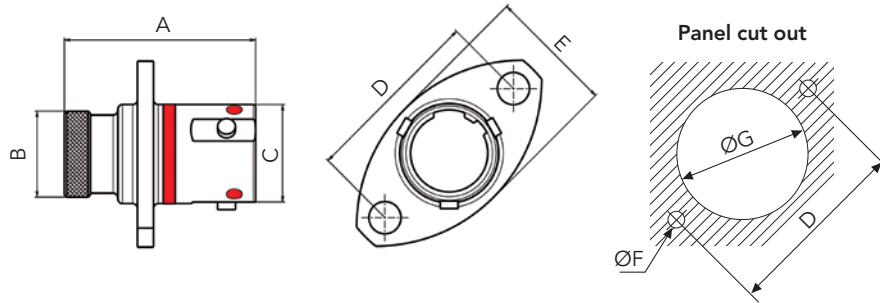
Dimensions

Jam nut receptacle

Shell size	ØA Max	B Max	C ^{±0.15}	ØD Max	E Max	F Max	ØG Max	H ^{±0.2}	ØJ ^{±0.1}
02	8.6	16.3 (02-05) 17.6 (02-35)	N/A	N/A	18.2	17	20.5	9.05	9.7
04	10.25	18.3	7.6	8.7	20.2	18.5	22.2	12	12.8
06	11.7	14.25	10.3	10.5	22.25	19.5	24.4	13.7	14.4

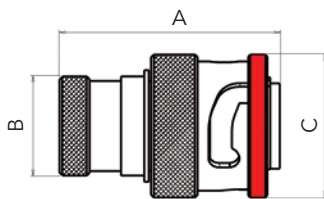
Note: All dimensions are in millimeters (mm)

Oval flange receptacle



Shell size	A ± 0.2	$\text{ØB} \pm 0.2$	$\text{ØC} \pm 0.2$	D ± 0.2	E Max	$\text{ØF} \pm 0.2$	$\text{ØG} \pm 0.1$
02	17.5	7.2	8.3	15.3	10.7	3.1	9.3
04	18.1	8.5	10.0	16.2	13.2	3.1	12.0
06	23.1	10.2	11.55	18.0	14.8	3.1	13.0

Plug

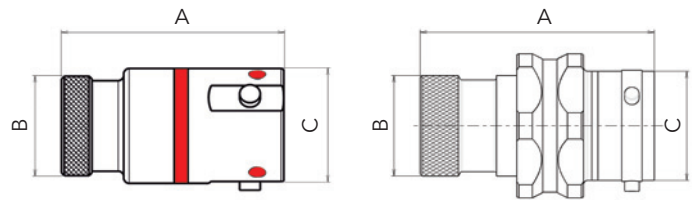


Shell size	A	ØB	ØC
02	17.5	7.2	10.4
04	18.3 ± 0.2	8.5 ± 0.1	13.4 ± 0.1
06	22.1 ± 0.1	10.25 ± 0.1	15.05 ± 0.2

In-line receptacle

Shell sizes 02 and 04

Shell size 06

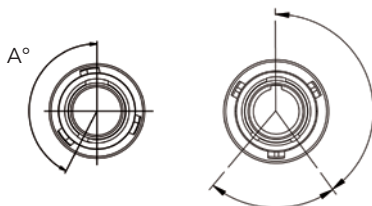


Shell size	A	ØB	ØC
02	17.5	7.2	8.3
04	18.1 ± 0.2	8.5 ± 0.1	10.0 ± 0.2
06	23.2	10.05	10.8

Orientations

Size 2

Sizes 4 & 6



View from front face of plug.

Key positions	N	A	B	C	D	E	U
Angle A°	153°	51°	102°	204°	255°	306°	None
Angle B°	75°	120°	120°	115°	115°	-	None
Angle C°	145°	130°	110°	155°	90°	-	None
Color band	Red	Yellow	Blue	Orange	Green	Grey	None

Note: All dimensions are in millimeters (mm)



Description

- 5 shell styles:
- 100% scoop-proof
- EMI-RFI shielding and shell to shell continuity is provided by conductive plating and integral grounding ring fitting to the plug
- Environment sealing from interfacial seal and rear grommet (sealing IP67)
- Positive locking mechanism with locked colour indicator
- 6 color-coded keyway orientations
- Conductive black zinc or nickel plating

Technical features

Mechanical

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

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

Electrical

- **Test voltage:**

Service	M	N	I	II
Sea level	1,300	1,000	1,800	2,300
- **Contact resistance:**

Size 22D:	14.6 mΩ
Size 20:	7.3 mΩ
Size 16:	3.8 mΩ
Size 12:	3.5 mΩ
Size 8:	3 mΩ
Size 4:	2 mΩ
- **Insulation resistance:**
≥ 5000 MΩ (at 500 Vdc)
- **Contact rating:**

Size 22D:	5 A
Size 20:	7.5 A
Size 16:	13 A
Size 12:	23 A
Size 8:	45 A
Size 4:	80 A
- **Shell continuity:** ≤10 mΩ

Environmental

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

Ordering information

Basic series	8STA	0	10	35	P	N
Shell type						
0: Oval flange receptacle front or rear mounting - PCB version available, please see p.XX						
1: In-line receptacle						
6: Plug						
7: Jam nut receptacle						
Material & Plating						
None: Aluminum Black zinc cobalt						
F: Aluminum Nickel						
Shell size						
08, 10, 12, 14, 16, 18, 20, 22, 24						
Contact layout: See pages 10 to 13						
Type of contact						
P: Pin						
S: Socket						
Orientation						
N: Red / A: Yellow / B: Blue / C: Orange / D: Green / U: Universal						
Specification						
None: Standard version						
499: Integrated nut on the flange - M2 insert (only for shell style 0 & 2) - for more details, please see page 38						
528: Integrated nut on the flange - M2.5 insert (only for shell style 0 & 2) - for more details, please see page 38						
523: Lightweight In-line receptacle (shell type 1 only)						
022: Fuel immersible version - for more details, please see page 52						

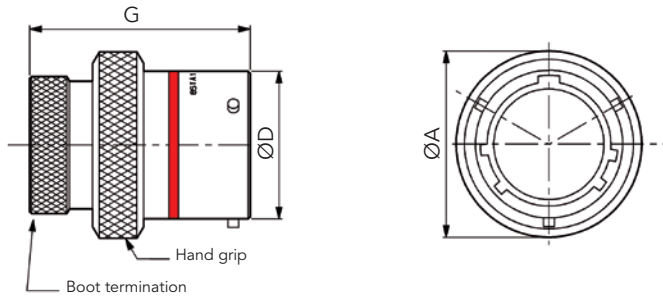
Dimensions

Plug			
	Shell size	ØA max.	B max.
	08	18.70	18.55
	10	21.50	
	12	25.10	
	14	29.00	
	16	32.20	
	18	35.40	19.30
	20	38.20	
	22	41.30	
24	44.50	19.05	

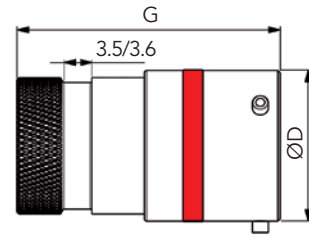
Note: All dimensions are in millimeters (mm)

In-line receptacle

Standard version

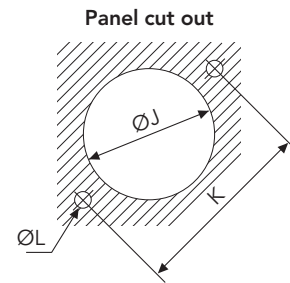
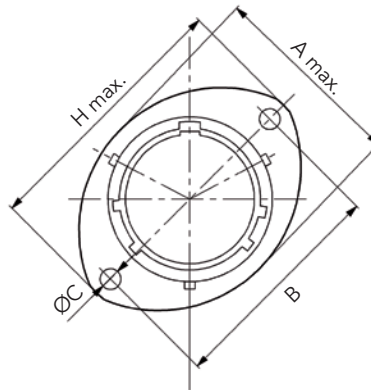
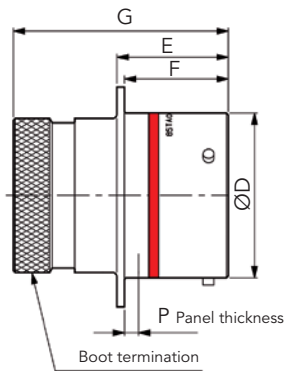


Lightweight version (specification 523)



Shell size	8	10	12	14	16	18	20	22	24
ØA max.	17.6	20.7	25.1	28.3	31.4	34.7	38.1	41.2	44.7
ØD ^{+0.20} _{-0.13}	12	15	19.05	22.22	25.4	28.57	31.75	34.92	38.1
G max.	33.5								

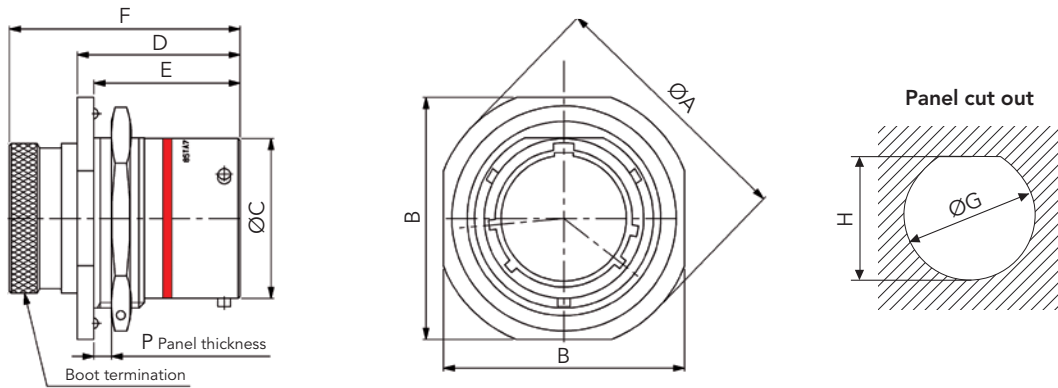
Oval flange receptacle



Shell size	A max.	B ±0.20	ØC ⁰ _{+0.1}	ØD ^{+0.2} _{-0.13}	E ⁰ _{+0.15}	F ⁰ _{-0.13}	G max.	H max.	P max.	ØJ ±0.10	K ±0.20	ØL ±0.20
08	16.50	21.40	3.20	12.00	17.21	16.05	33.50	27.20	3.00	14.50	21.40	3.60
10	19.50	25.90		15.00				32.00		17.40	25.90	
12	24.00	29.10		19.05				35.20		21.90	29.10	
14	27.00	32.50		22.22				38.40		25.00	32.50	
16	30.30	34.80		25.40				41.00		28.20	34.80	
18	33.70	38.20		28.57				44.70		31.40	38.20	
20	37.00	41.60		31.75				47.90		34.60	41.60	
22	40.40	45.00	34.90	51.00	37.60	45.00						
24	43.40	49.50	3.77	38.10	18.20	15.29	55.80	41.00	49.50	4.10		

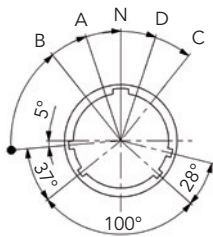
Note: All dimensions are in millimeters (mm)

Jam nut receptacle

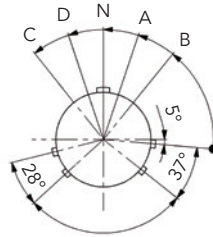


Shell size	ØA ±0.3	B ±0.24	ØC $\begin{smallmatrix} 0 \\ -0.12 \end{smallmatrix}$	D ±0.10	E ±0.24	F ±0.3	P max.	ØG ±0.10	H ±0.20	Tightening torque (mN)
08	26.90	24.10	11.97	25.91	23.24	36.71	3.00	14.50	13.60	4
10	30.15	27.30	14.94					17.70	16.80	6
12	34.89	32.10	19.01					22.70	20.90	9
14	38.06	34.92	22.18					25.70	24.10	10
16	41.25	38.40	25.36	26.71	37.51	3.00	28.80	27.20	13	
18	44.41	41.60	28.53				32.00	30.40	20	
20	49.19	46.30	31.71				35.10	33.60	23	
22	52.33	49.50	34.88				38.00	36.80	25	
24	55.50	52.45	38.06				42.00	39.90	26	

Orientations



Viewed from face of receptacle



Viewed from face of plug

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

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

Note: All dimensions are in millimeters (mm)

Description

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



Technical features

Mechanical

- **Shell:** Aluminium alloy
- **Shell plating:**
Conductive black zinc
Nickel (consult us)
- **Insulator:** Thermoplastic
- **Grommet & seal:** Liquid silicone rubber
- **Contact:** Copper alloy
- **Contact plating:** Gold
- **Endurance:** 500 mating cycles
- **Shock:** 300g for 3ms and EIA-364-27
- **Vibration:** Random 100 to 1000 Hz - 1 g²/Hz
- **Contact retention:** 45 N

Electrical

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

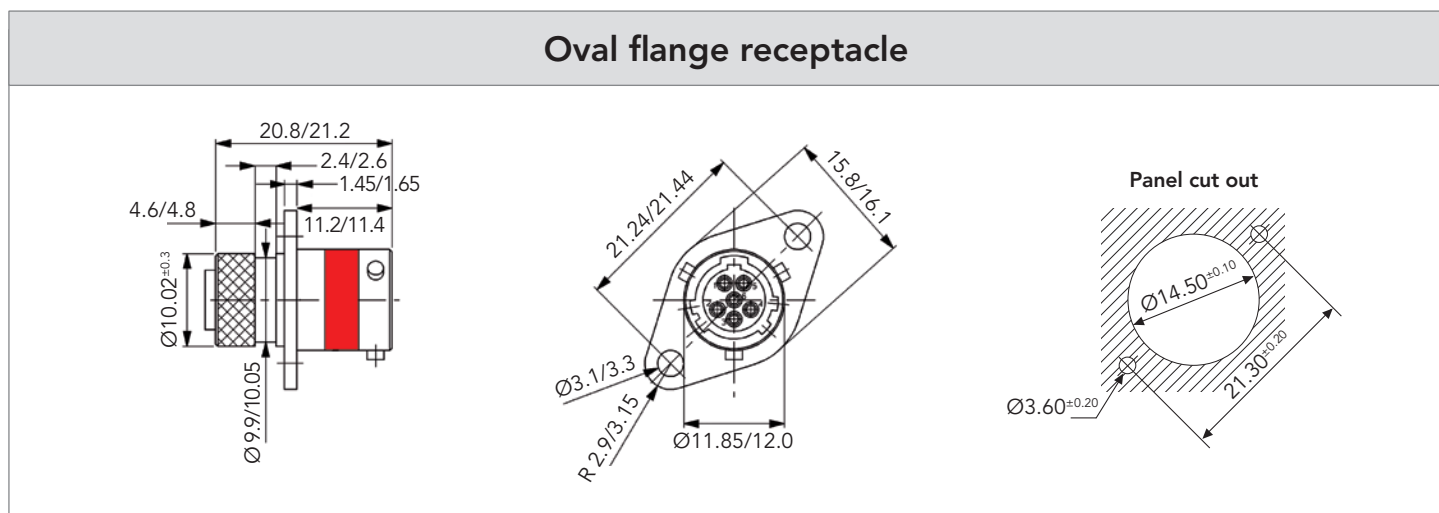
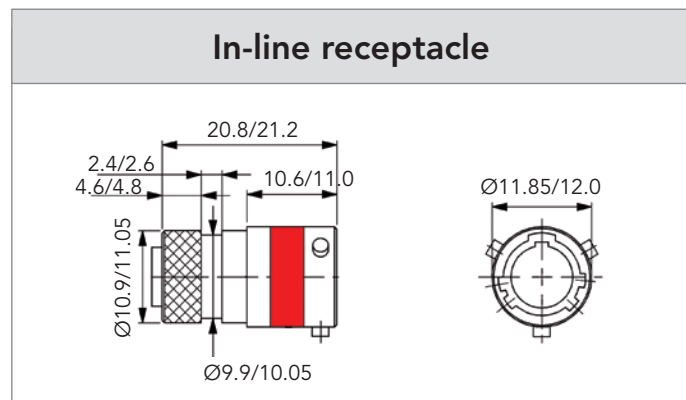
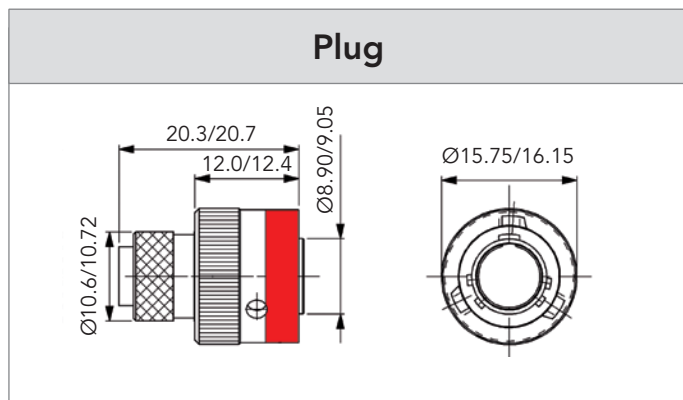
Environmental

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

Ordering information

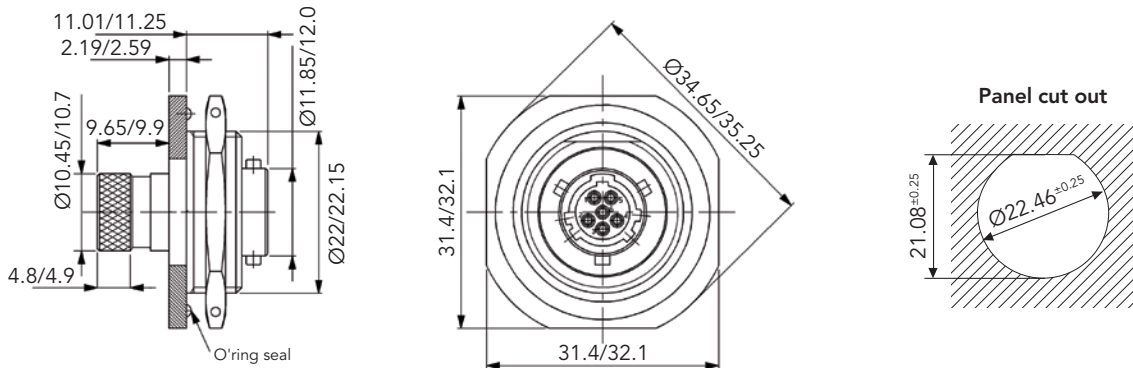
Basic series	8TA	0	08	35	P	N
Shell type	<ul style="list-style-type: none"> 0: Oval flange receptacle (for front or rear mounting) 1: In-line receptacle 6: Plug 7: Jam nut receptacle 					
Shell size	08					
Contact layout:	See page 10					
Type of contact	<ul style="list-style-type: none"> P: Pin S: Socket 					
Orientation	N: Red / A: Yellow / D: Green					

Dimensions

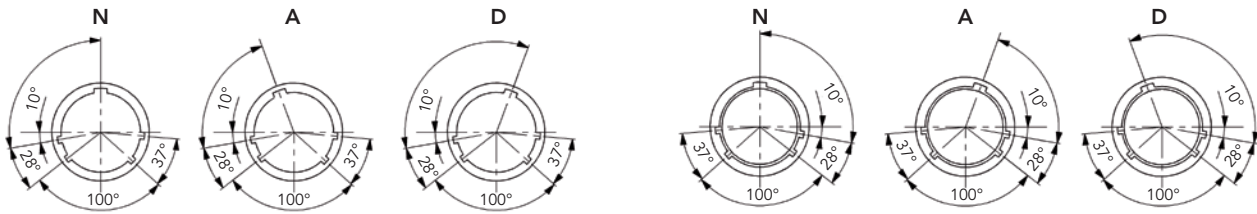


Note: All dimensions are in millimeters (mm)

Jam nut receptacle



Orientations



Viewed from front face of receptacle

Viewed from front face of plug

Key positions	Alpha 1	Color band
N	100°	Red
A	82°	Yellow
D	118°	Green

Note: All dimensions are in millimeters (mm)

Description

- Rugged aluminium body to ensure long service life in the harshest environment
- 8STA PCB connectors are available in shell sizes 02 to 24 (12 sizes)
- 100% scoop proof
- Available with clinch nut
- 6 colour coded keyway orientations



Technical features

Mechanical

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

Electrical

- **Contact resistance:**
Size 26: 16 mΩ
Size 22D: 14.6 mΩ
Size 20: 7.3 mΩ
Size 16: 3.8 mΩ
- **Insulation resistance:**
≥ 5000MΩ (at 500Vdc)
- **Contact rating:**
Size 26: 3 Amp
Size 22D: 5 Amp
Size 20: 7.5 Amp
Size 16: 13 Amp
- **Shell continuity:** ≤ 10mΩ

Environmental

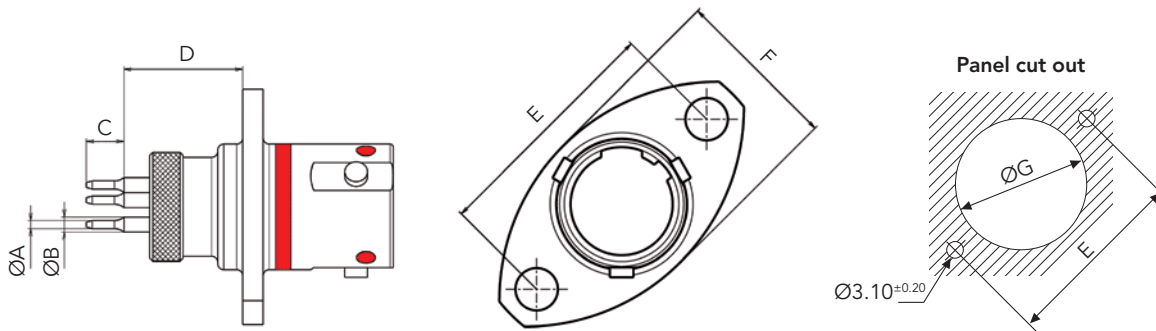
- **Temperature range:** -55°C to +175°C
- **Sealing mated connectors:**
IP67 (1 metre for 30 min minimum)
- **Salt spray:** 48 hours

Ordering information

Basic series	8STA	2	12	35	P	N	-
Shell type 2: Oval flange receptacle with PCB contacts							
Shell size 02, 06, 04, 08, 10, 12, 14, 16, 18, 20, 22, 24							
Contact layout See pages 10 to 13							
Type of contact P: Pin S: Socket							
Orientation N: Red, A: Yellow, B: Blue, C: Orange, D: Green, E: Grey (shell size 02 only)							
Specification None: Standard version 499: Integrated clinch nut on flange (M2 for sizes 02, 04 & 06; M3 for sizes 08 to 24) 528: Integrated clinch nut on flange (M2.5 for sizes 02, 04 & 06) 571: Specific PC tail (length = 4.6mm) - only available for sizes 08 to 24 (see next page) 625: Specific PC tail (length = 8.5mm) - only available for sizes 08 to 24 (see next page)							

Dimensions

Shell sizes 02, 04 & 06

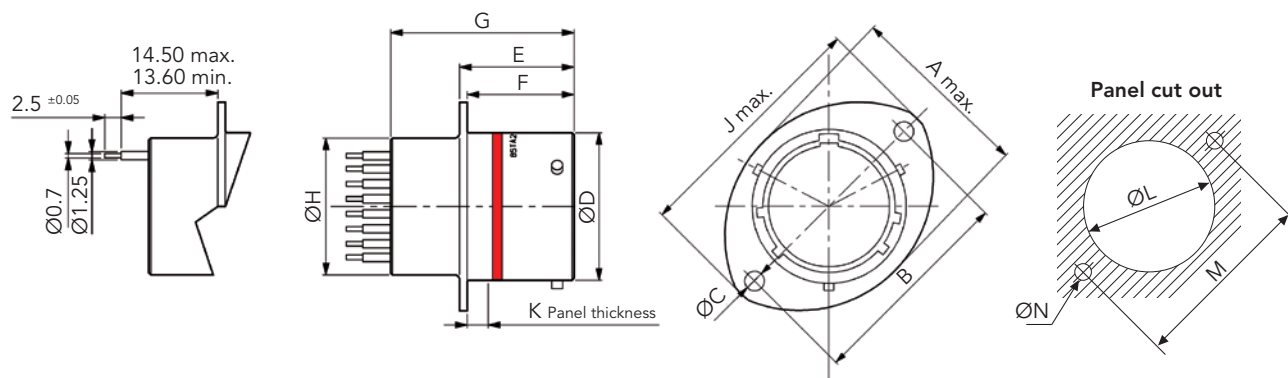


Contact size	ØA Max	ØB Max
#22D	0.70	1.25
#26	0.55	1.16

Shell size	C Max	D max	E	F Max	ØG
02	2.5	9.5	15.3 ^{±0.2}	10.7	9.3 ^{±0.1}
04	2.5	8.7	16.2 ^{±0.2}	13.2	12.0 ^{±0.1}
06	4.1	14.7	18.0 ^{±0.2}	14.8	13.0 ^{±0.1}

Note: All dimensions are in millimeters (mm)

Shell sizes 08 to 24



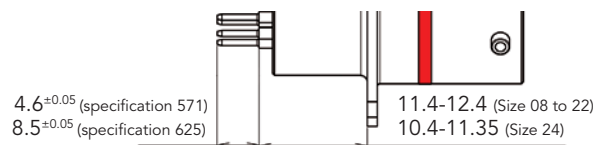
Shell size	A Max	B ^{±0.20}	ØC	ØD ^{+0.2}	E	F	G Max	ØH Max	J Max	K Max	ØL ^{±0.10}	M ^{±0.20}	ØN ^{±0.20}
08	16.50	21.40	3.20	12.00	17.21	16.05	27.65	11.10	27.20	3.00	14.50	21.40	3.60
10	19.50	25.90		14.97				13.90	32.00		17.40	25.90	
12	24.00	29.10		19.05				17.35	35.20		21.90	29.10	
14	26.90	32.50		22.22				20.50	38.40		25.00	32.50	
16	30.30	34.80		25.40				23.70	41.00		28.20	34.80	
18	33.70	38.20		28.57				26.91	44.70		31.40	38.20	
20	37.00	41.60		31.77				30.11	47.80		34.60	41.60	
22	40.40	45.00	34.90	33.20	51.00	37.60	45.00						
24	43.40	49.50	3.77	38.10	18.20	15.29	36.40	55.80	41.00	49.50	4.10		

Specific PC Tail version

Available with layouts using contacts #22D and/or #20
 Also available with clinch nut: please consult us

Specification 571: PC tail length = 4.6 mm

Specification 625: PC tail length = 8.5 mm



Note: All dimensions are in millimeters (mm)

Description

- A #4 contact for a wide range of wire sizes: Size 8, 10, 16, 25 & 35 mm²
- Easy visual wire identification: colored band on contact
- Allow the use of small wire sections: Reducer for wires 8 & 10 mm² in contact barrel 16mm²
- Ideal for high power applications: Up to 200A continuous (12-01 specif. 261)
- Space & cost saving with mixed connectors: Only one connector instead of 2 to transmit signal & power

Technical features

Mechanical

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

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

Electrical

- **Test voltage:**

Service	M	N	I	II
Sea level	1300	1000	1800	2300

- **Contact resistance:**

Size 22D:	14.6 mΩ
Size 20:	7.3 mΩ
Size 16:	3.8 mΩ
Size 12:	3.5 mΩ
Size 8:	3 mΩ
Size 4:	2 mΩ
- **Insulation resistance:**
 - ≥ 5000 MΩ (at 500 Vdc)
- **Contact rating:**

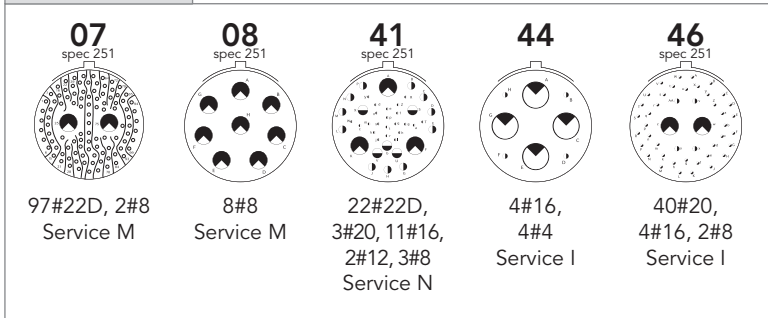
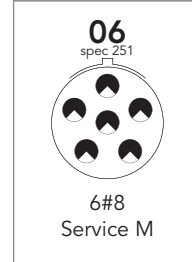
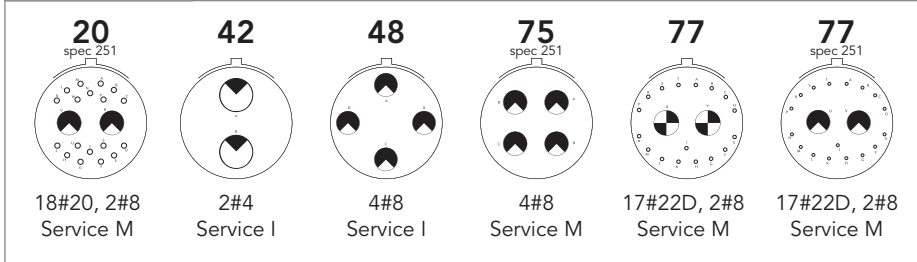
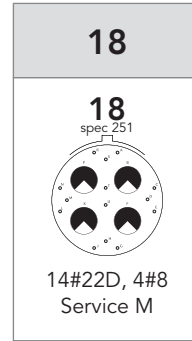
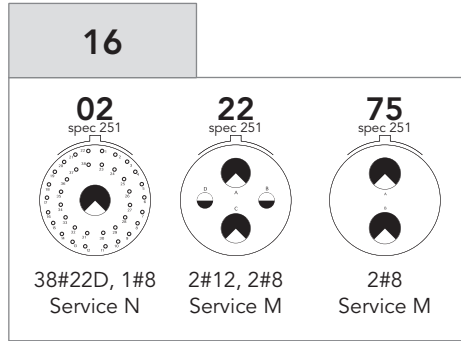
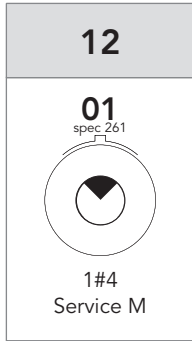
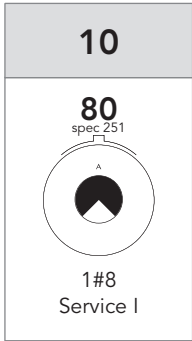
Size 22D:	5 A
Size 20:	7.5 A
Size 16:	13 A
Size 12:	23 A
Size 8:	45 A
Size 4:	80 A
- **Shell continuity:** ≤10 mΩ

Environmental

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

Contact layouts viewed from front face of male insulator

Contact sizes ○ #22D ● #20 ◐ #16 ◑ #12 ◒ #8 Power ◓ #4 Power



Ordering information

Basic series	8STA	0	12	01	P	N	261
Shell type							
0: Oval flange receptacle (for front or rear mounting)							
1: In-line receptacle							
6: Plug							
7: Jam nut receptacle							
Shell size: 10, 12, 16, 18, 20, 22, 24							
Contact layout: See previous page							
Type of contact							
P: Pin A: without pin contacts (specifications 261 & 545 only)							
S: Socket B: without socket contacts (specifications 261 & 545 only)							
Orientation: N: Red / A: Yellow / B: Blue / C: Orange / D: Green / U: Universal							
Specification							
None: for contact layouts 20-48 & 24-44							
251: for contact layouts 10-80, 16-02, 16-75, 18-18, 20-75, 20-78, 24-07, 24-41 & 24-46							
261: only for 12-01 - see note below							
540: Layout 12-01 with protected socket							
545: Only for layout 24-44 - delivered with contacts #16 & without power contacts #4, power contact #4 to be ordered separately according wire section to be used (see table below)							

Note : Layout 12-01 specif. 261 only.

1) Standard connector (8STAx1201yz261 where x = shell type; y = type of cts; z = orientation) is provided with power contacts for 16mm² wire.

2) For 10mm² wire, order standard connector (note 1) + reducing sleeve 8400 2351 A separately.

3) For 25mm² wire, order connector without contact, see A & B details in type of contact (ex : 8STAx1201Az261 or Bz261) + contact separately (pin : 8599 7598 900 & socket : 8599 7599 900)

4) For 35mm² wire, order connector without contact, see A & B details in type of contact (ex : 8STAx1201Az261 or Bz261) + contact separately (pin : 8599 0313 & socket : 8599 0316)

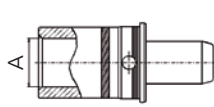
Power contacts

Designation	Wire 16 mm ²	Wire 25 mm ²	Wire 35 mm ²
	Removable contact		Non removable contact
Color band	Red	Blue	Green
Pin contact	8599 7520A 900	8599 7598 900	8599 0313
Socket contact	8599 7521A 900	8599 7599 900	8599 0316
Reducer - wire 8 & 10 mm²	8400 2351A	-	-
Crimping tool	M22520/23-01 + Die M22520/23-04 + Positionner M22520/23-11 And for wider wire 50 mm ² : M22520/23-01+ Die WA23-4 + Positionner WA23-176L	M22520/23-01 + Die M22520/23-04 + Positionner M22520/23-11	M22520/23-01 + Die 8599-0319 + Positionner 8599-0318 (male) + Positionner 8599-0317 (female)
Plastic extraction tool	M81969/14-07 (blue)		-

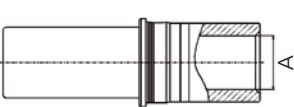
Specific wire dimensions

Power contact #4

Pin contact



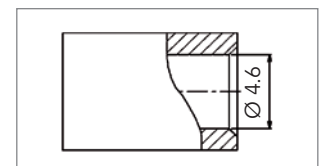
Socket contact



Cable section	A		
	16 mm ²	25 mm ²	35 mm ²
Contact Ø	6.5 Min.	7.33 Min.	8.65 Min.
Color band	Red	Blue	Green

Reducer for wire 8 and 10 mm²

Compatible with pin and socket contact, wire 16 mm²



Note: All dimensions are in millimeters (mm)

Description

- High vibration withstanding
- Coax contact available for AWG 16, 12 and 8
- Up to 18 GHz DC for #8 coax contact under vibration
- Removable contacts
- Available in shell size 02

Technical features

Mechanical

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

- **Contact retention:**
Size 16: 100 N
Size 12: 100 N
Size 8: 110 N

Electrical

- **Grounding:**
Contact grounded with shell
- **Contact definition:**
Coax compliant with M39029/76-424
- **Cable accommodated:**
M17/119-RG174
M17/113-RG316
M17/094-RG179

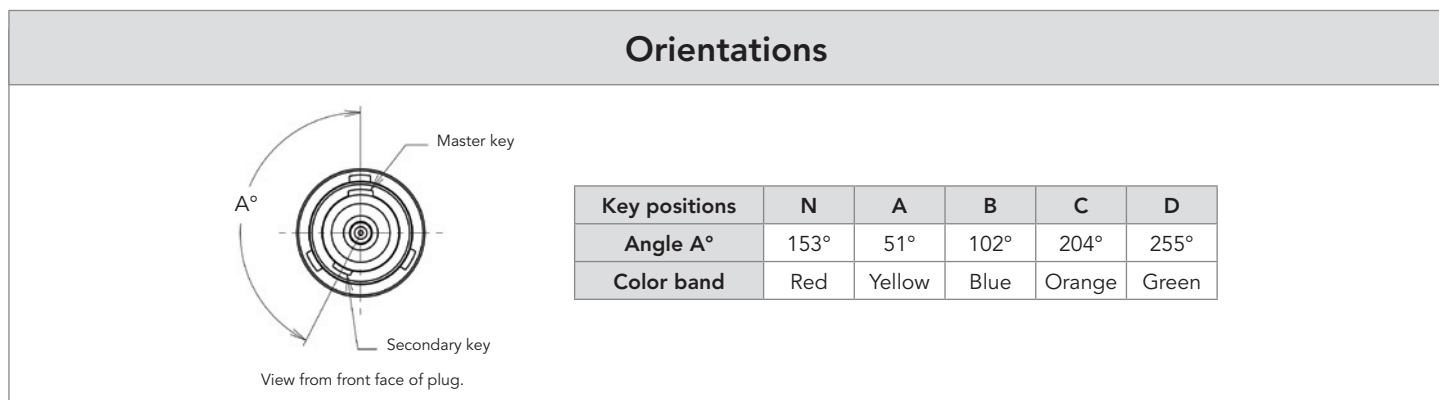
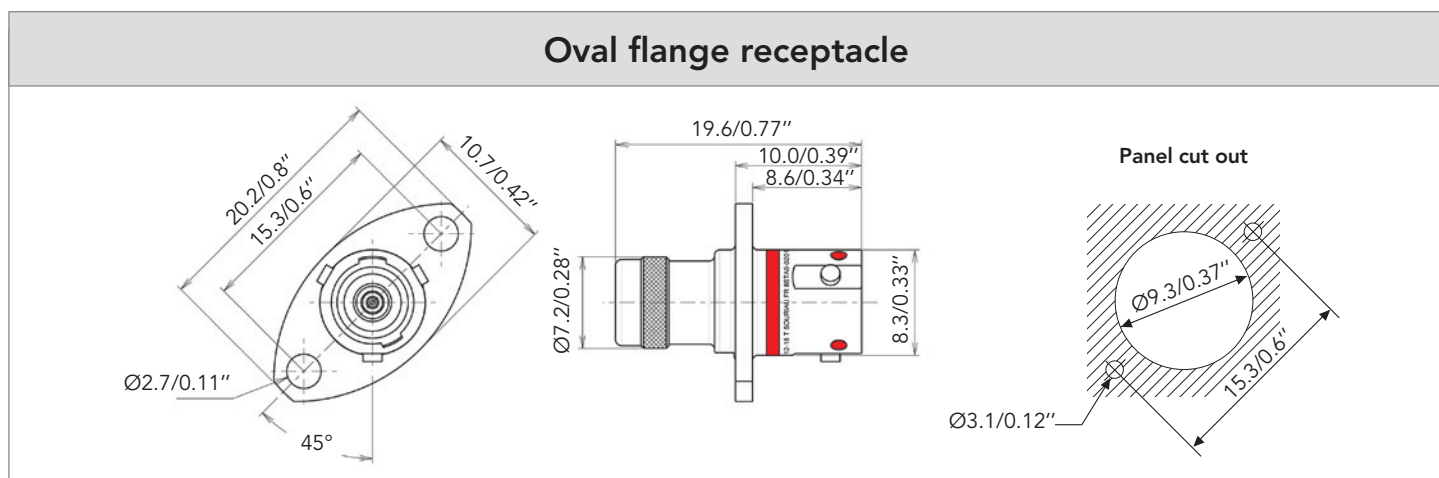
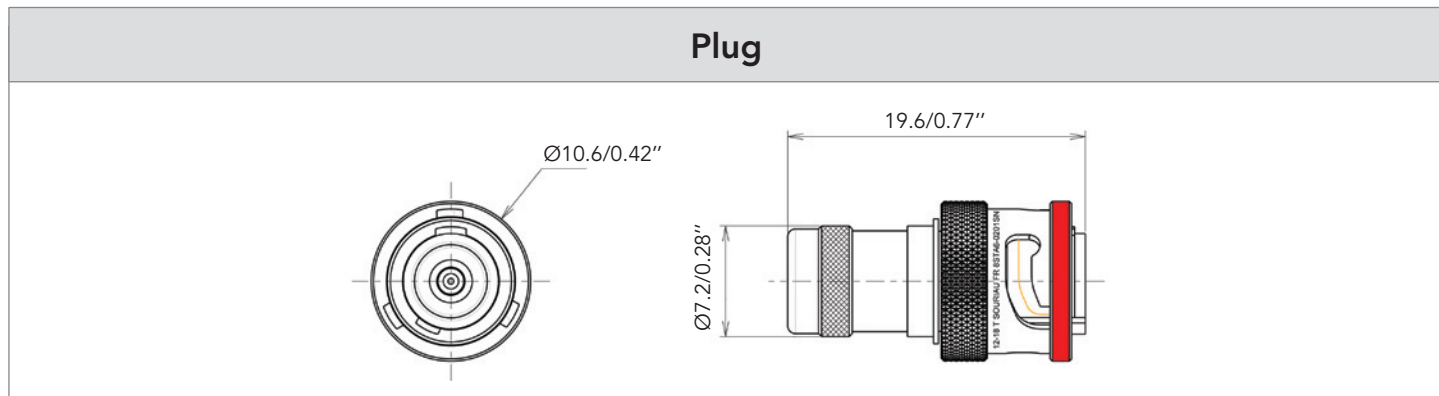
Environmental

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

Ordering information

Basic series	8STA	0	02	01	P	N	801
Shell type 0: Oval flange receptacle 6: Plug							
Material & Plating None: Aluminum Black zinc F: Aluminum Nickel							
Shell size: 02, consult us for other sizes							
Contact layout: 01, consult us for other layouts							
Type of contact P: Pin, for oval flange receptacle only S: Socket, for plug only							
Orientation N: Red / A: Yellow / B: Blue / C: Orange / D: Green							
Mandatory specification 801: Delivered with grounded coax contact							

Dimensions



Note: All dimensions are in millimeters and inches (mm/inch).

Description

- Derived from MIL-DTL-38999 & JN1003 standard
- Rugged aluminium body to ensure long service life in the harshest environment
- 100% scoop proof
- Available in 6 shell sizes: 02-05; 04-06; 06-09; 08-12; 10-26; 12-43; 14-68
- Contacts #26 for AWG 24 to 30



Technical features

Mechanical

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

Electrical

- **Contact resistance:** Size 26: 16mΩ
- **Insulation resistance:**
≥5000MΩ (at 500Vdc)
- **Contact rating:** Size 26: 3 Amp
- **Shell continuity:** ≤10mΩ

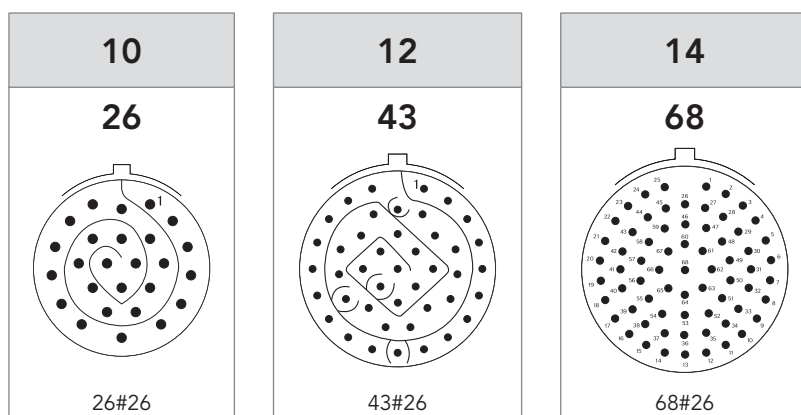
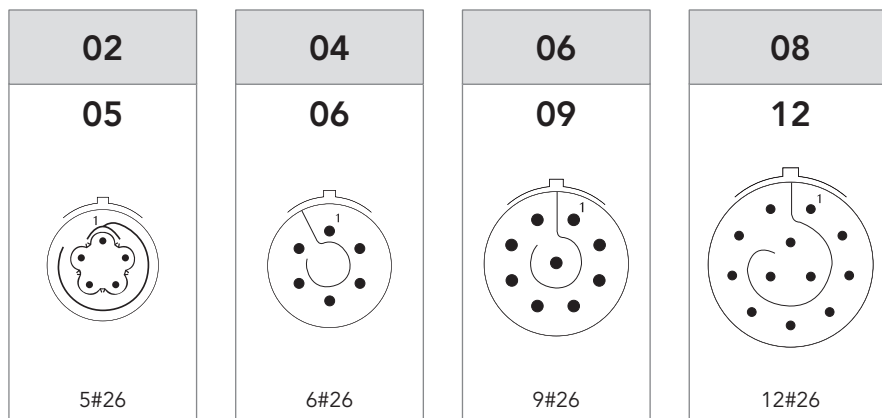
Environmental

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

Ordering information

Basic series	8STA	6	12	43	P	N
Shell type 0: Oval flange receptacle 1: In line receptacle 2: Oval Flange receptacle with PCB contacts 6: Plug 7: Jam nut receptacle						
Shell size 02, 04, 06, 08, 10, 12, 14						
Contact layout: See below						
Type of contact P: Pin S: Socket						
Orientation N: Red, A: Yellow, B: Blue, C: Orange, D: Green, E: Grey (shell size 02 only), U: Universal						
Specification None : Standard crimp version 499: Integrated clinch nut on the flange: . M2 insert (shell type 0 & 2 only for shell sizes 04 & 06) . M3 insert (shell type 0 & 2 only for shell sizes 08, 10 & 12) 523: Light weight in line receptacle - for shell sizes 08 to 12 (shell type 1 only) 528: Integrated clinch nut on the flange: M2.5 insert (shell type 0 & 2 only for shell sizes 04 & 06) 566: Rackable plug - for shell sizes 10 & 12 (shell type 6 only)						

Contact layouts (viewed from front face of male insulator)



8STA/8TA SERIES

8STA/8TA Series

Derived Series

■ 8STA Series - Integrated clinch nuts.....	38
■ 8STA Series - Single hole fixing.....	40
■ 8STA Series - Quick release for steering boss system.....	42
■ 8STA Series - Blind mating plug.....	44
■ 8STA Series - Hermetic shell size 02.....	46
■ 8STA Series - Hermetic fuel tank.....	48
■ 8STA Series - Hermetic feed-through.....	50
■ 8STA Series - Fuel immersible.....	52

Description

- A convenient and time saving feature - Weight saving opportunities: Elimination of nut plates
- SOURIAU's offer:
 - . 12 shell sizes available, from size 02 to 24
 - . Available with standard crimp contacts (shell type 0) and PCB contacts (shell type 2)



Technical features

Mechanical

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

Contact retention:

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

Electrical

- Please see details page 16 for sizes 02 to 06, and page 19 for sizes 08 to 24

Environmental

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

Current solution:



Connector + extra nut plate fixed on the rear connector side.

NEW solution:



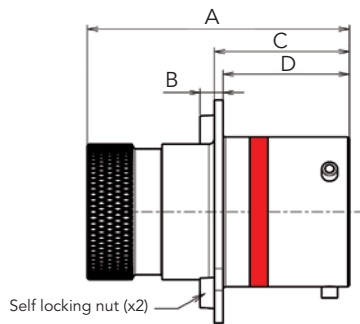
Integrated clinch nuts on the flange = **Cost and time saving!**

Ordering information

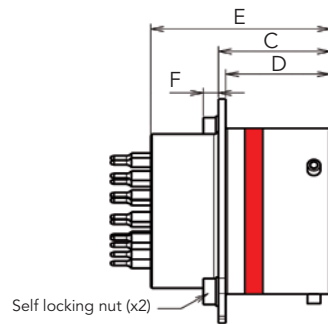
Basic series	8STA	0	10	35	P	N	499
Shell type							
0: Oval flange receptacle							
2: Oval flange receptacle with PCB contacts							
Shell size							
02, 04, 06, 08, 10, 12, 14, 16, 18, 20, 22, 24							
Contact layout							
See pages 10 to 13							
Type of contact							
P: Pin							
S: Socket							
Orientation							
N: Red / A: Yellow / B: Blue / C: Orange / D: Green / U: Universal							
Specification (mandatory)							
499: Integrated nut on the flange - M2 insert for sizes 02 to 06 / M3 insert for sizes 08 to 24							
528: Integrated nut on the flange - M2.5 insert for sizes 02 to 06							

Dimensions

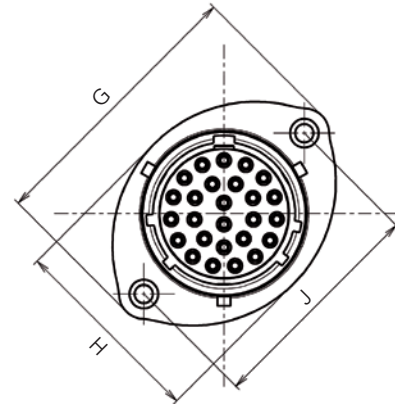
Oval flange receptacle



Standard version



PC Tail version



Shell size	A	B	C	D	E max.	F	G max.	H max.	J ±0.20
02	16.30	3.22	10.15	8.80	17.5	2.05	21.4	10.50	15.4
04	18.30	3.37	10.7	9.2	18.3		22.3	13.2	16.4
06	23.25	3.83	12.95	10.95	23.25		24.0	15.0	18.2
08	33.4	3.32	17.21	16.05	27.65	2.72	29.25	16.50	21.40
10							33.75	19.50	25.90
12							36.95	24.00	29.10
14				40.35			27.00	32.50	
16				42.65			30.30	34.80	
18				46.05			33.70	38.20	
20	15.29	18.20					49.45	37.00	41.60
22							52.85	40.40	45.00
24							57.35	43.40	49.50

For other dimensions please see:

p.16 for Standard version sizes 02 to 06.

p.19 for Standard version sizes 08 to 24.

p.26 for PC Tail version sizes 02 to 24.

Note: All dimensions are in millimeters (mm)

Description

- Half flange weight saving connector
- Derived from MIL-DTL-38999 & JN1003 standard
- 100% scoop proof
- Available from 02 to 24 shell sizes
- Clinch nuts or PCB version available



Technical features

Mechanical

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

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

Electrical

- **Test voltage:**

Service	Sea level	@21,000m
R	400	N/A
S	1,000	N/A
M	1,300	800
N	1,000	600
I	1,800	1,000
II	2,300	1,000

- **Contact resistance:**

Size 26:	<16 mΩ
Size 22D:	14.6 mΩ
Size 20:	7.3 mΩ
Size 16:	3.8 mΩ
Size 12:	3.5 mΩ
Size 8:	3 mΩ
Size 4:	2 mΩ

- **Insulation resistance:**

≥ 5000MΩ @ 400Vdc / Size 26
 ≥ 5000MΩ @ 500Vdc / All other sizes

- **Contact rating:**

Size 26:	3 Amp
Size 22D:	5 A
Size 20:	7.5 A
Size 16:	13 A
Size 12:	23 A
Size 8:	45 A
Size 4:	80 A

- **Shell continuity:** ≤10 mΩ

Environmental

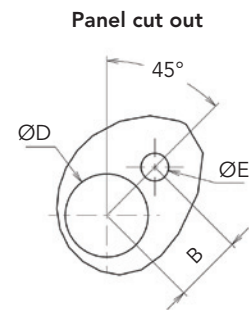
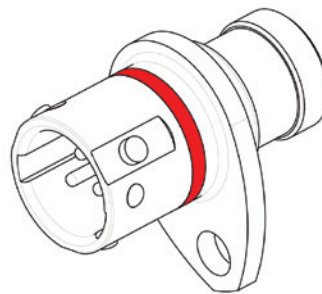
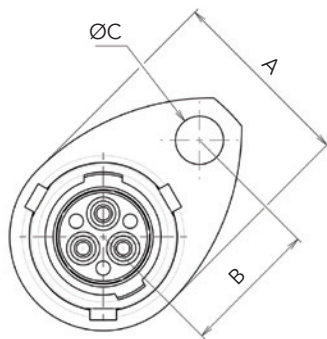
- **Operating temperature:**
-55°C to +175°C
- **Sealing mated connectors:**
IP67 (1 metre for 30 min minimum)
- **Salt spray:**
Aluminum Nickel: 48 hours
Aluminum conductive Black Zinc: 48 hours

Ordering information

Basic series	8STA	0		10	35	P	N	890
Shell type	0: Half oval flange receptacle							
Material & Plating	None: Aluminum Black zinc F: Aluminum Nickel							
Shell size	02, 04, 06, 08, 10, 12, 14, 16, 18, 20, 22, 24							
Contact layout:	See pages 10 to 13							
Type of contact	P: Pin S: Socket							
Orientation	N: Red / A: Yellow / B: Blue / C: Orange / D: Green / E: Grey (shell size 02 only) / U: Universal (consult us)							
Specification	890: Single hole fixing - half oval flange receptacle							

For any other configuration (clinch nuts, PC tail, ...), please consult us.

Dimensions



Size	02	04	06	08	10	12	14	16	18	20	22	24
A max.	10.7/0.42"	13.2/0.52"	14.9/0.59"	16.5/0.65"	19.5/0.77"	24.0/0.94"	27.0/1.06"	30.3/1.19"	33.7/1.33"	37.0/1.46"	40.4/1.59"	43.4/1.71"
B^{±0.1}	7.65/0.30"	8.1/0.32"	9.0/0.35"	10.7/0.42"	12.95/0.51"	14.55/0.57"	16.25/0.64"	17.4/0.69"	19.1/0.75"	20.8/0.82"	22.5/0.89"	24.75/0.97"
ØC max.	2.80/0.11"			3.20/0.13"								3.77/0.15"
ØD^{±0.1}	9.3/0.37"	12.0/0.47"	13.0/0.51"	14.5/0.57"	17.4/0.69"	21.9/0.86"	25.0/0.98"	28.2/1.11"	31.4/1.24"	34.6/1.36"	37.6/1.48"	41.0/1.61"
ØE^{±0.2}	3.10/0.12"			3.60/0.14"								4.10/0.16"

Note: All dimensions are in millimeters and inches (mm/inch).

Description

- Rugged aluminium body to ensure long service life in the harshest environment.
- 100% scoop proof.
- Available in 2 shell sizes: 10 and 12, please consult us for other sizes.
- Standard insulators shell sizes 10 and 12 available.



Technical features

Mechanical

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

Electrical

- **Contact resistance:**
Size 22D: 14.6mΩ
- **Insulation resistance:** ≥ 5000MΩ @ 500Vdc
- **Contact rating:**
Size 22D: 5 Amp
- **Shell continuity:** ≤ 10mΩ

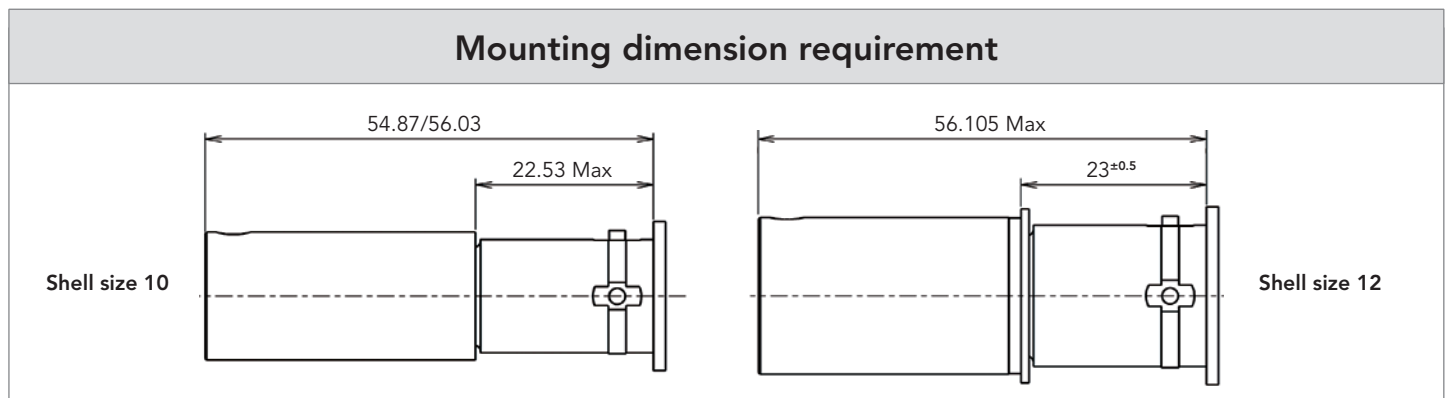
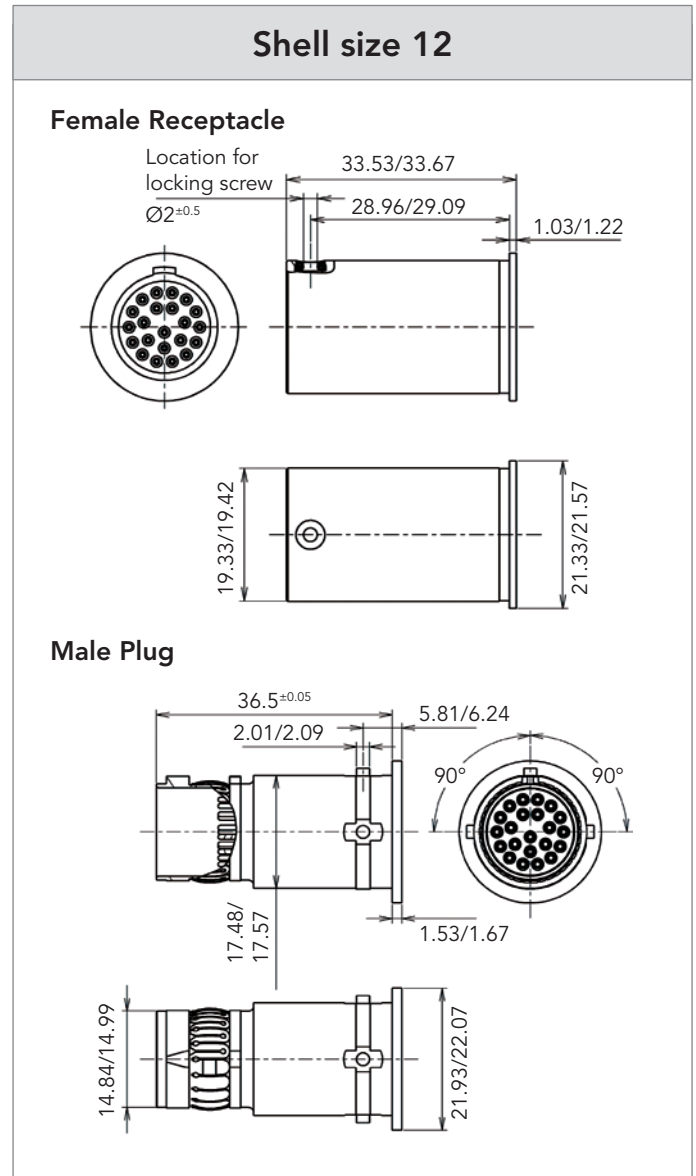
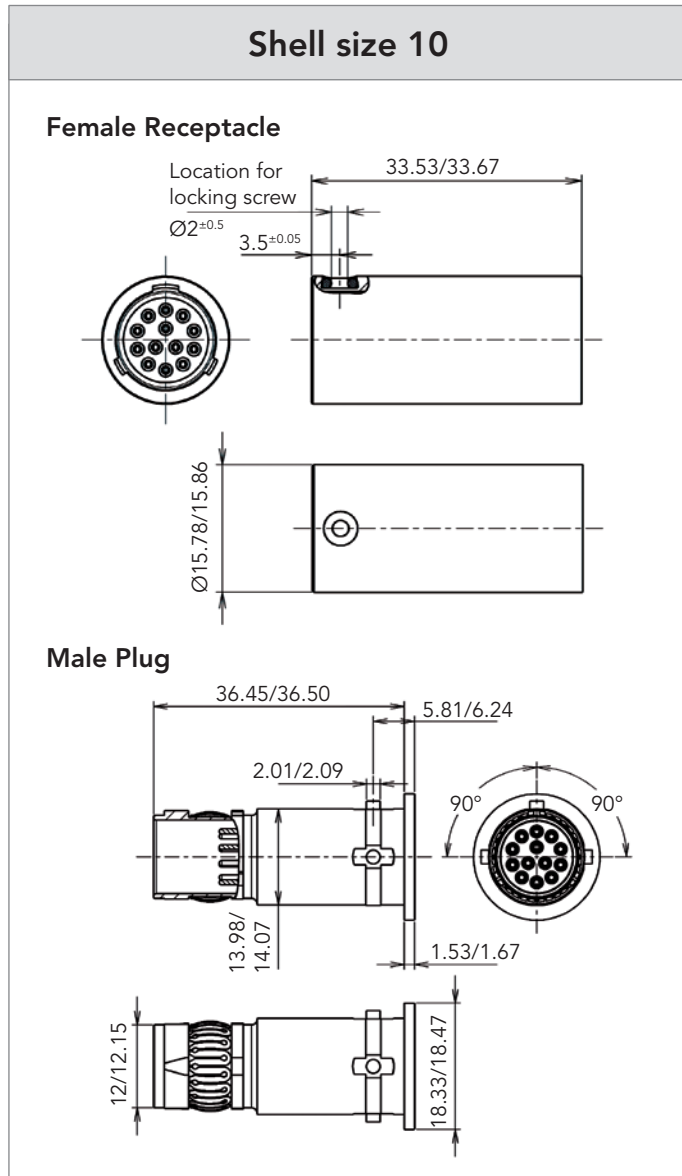
Environmental

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

Ordering information

Basic series	8STA	6	12	35	P	N	518
Shell type 0: Receptacle side 6: Plug side							
Shell size: 08 (consult us), 10, 12							
Contact layout: See pages 10 to 13							
Type of contact P: Pin S: Socket							
Orientation: N							
Specification (mandatory) 518: Steering column							

Dimensions



Note: All dimensions are in millimeters (mm)



Description

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

Technical features

Mechanical

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

Electrical

- Test voltage

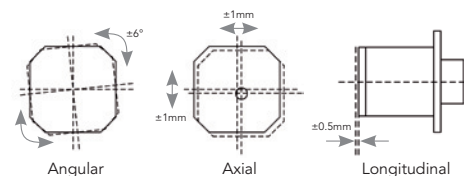
Service	M	N	I	II
Sea level	1300	1000	1800	2300

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

Environmental

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

Compensating for misalignment in 3 axes



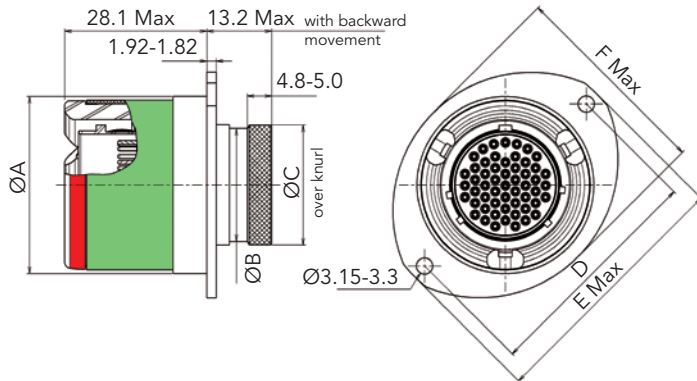
Ordering information

Basic series	8STA	6	12	35	S	N	566
Shell style	6: Blind mating plug						
Shell size	10, 12, 14, 16						
Contact layouts	See pages 10 to 13						
Type of contacts	P: Pin contacts S: Socket contacts						
Orientation	N: Red						
Specification (mandatory)	566: Rackable plug						

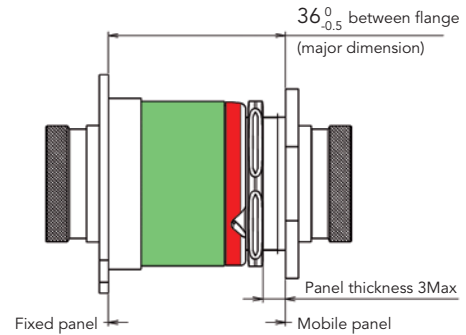
Note: Receptacle to be used with rackable plug = 8STA7xxxxx (standard jam nut version)

Dimensions

Plug type 6



Mated Connector
(plug type 6 & jam nut receptacle type 7)



Shell size	$\text{ØA}^{+0.3}_{-0}$	$\text{ØB}^{+0.2}_{-0}$	ØC	$D^{+0.4}_{-0}$	E	F
10	25.17	12.85	13.72	34.60	41.00	30.30
12	28.35	15.92	17.26	38.00	44.70	33.70
14	31.52	18.90	20.41	41.40	47.90	37.00
16	34.70	22.08	23.60	44.80	51.00	40.40

Note: All dimensions are in millimeters (mm)

Description

- The smallest hermetic circular 5 ways PCB connector on the market
- Lightweight 8STA connector
- Suitable for welding directly to sensor bodies: Designed for weld fixing
- Excellent corrosion resistance: Stainless steel body
- Excellent hermeticity: Hermetic glass bead (1.10^{-7} cm³/s)
- Intermateable with standard plug size 02
- Easy identification with colour coded bands: 7 visual keyway orientations
- Rapid & secure locking system with audible click: Bayonet connector



Technical features

Mechanical

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

Electrical

- **Test voltage:** 400Vrms (sea level)
- **Contact resistance:** 2 m Ω
- **Insulation resistance:** $\geq 5000M\Omega$ (at 500Vdc)
- **Contact rating:** 1.8 Amp

Environmental

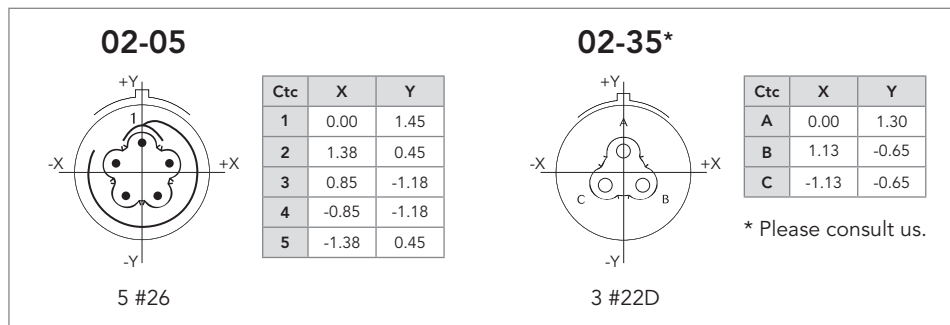
- **Operating temperature:** -55°C to +175°C
- **Sealing mated connectors:** IP67 (1 meter for 30 min minimum)
- **Salt spray:** 48 hours
- **Hermeticity:** 1.10^{-7} cm³/s

Ordering information

Basic series	8STA	1	Y	02	05	P	N	170
Shell type	1: In-line connector							
Class	Y: Hermetic version							
Shell size	02							
Contact layout	See below for available layouts							
Type of contact	P: Pin contacts							
Orientation	N: Red / C: Orange - please consult us for other keyway							
Specification (mandatory)	170: Hermetic shell size 02							

Contact layouts

and PCB drilling information. Viewed from front face of male insulator

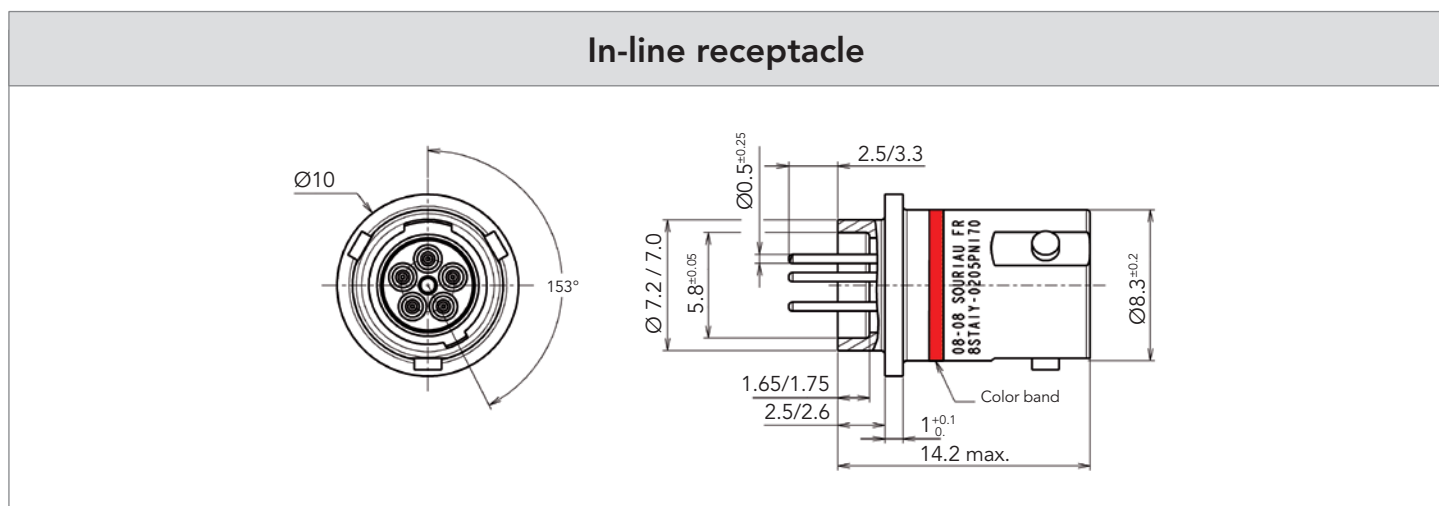


Connector weight

Maximum in grams

Layout	In-line receptacle
02-05	2.5
02-35	2.5

Dimensions



Note: All dimensions are in millimeters (mm)

Description

- Hermetically sealed connector: $1.10^{-7} \text{ cm}^3/\text{s}$ @ 15PSI
- Withstands pressure differential without loss of electrical performances: Glass to metal insert
- Excellent resistance to racing fuels & fluids: Viton® interfacial seal
- Excellent corrosion resistance: Stainless steel material
- Low profile design for heat shrink boot & cost effective connector
- Integrated backshell

Technical features

Mechanical

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

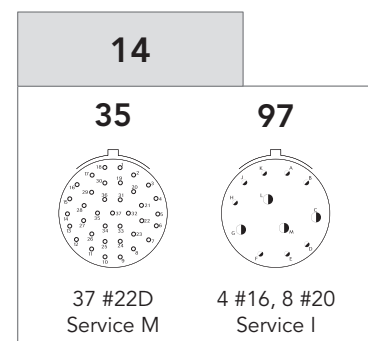
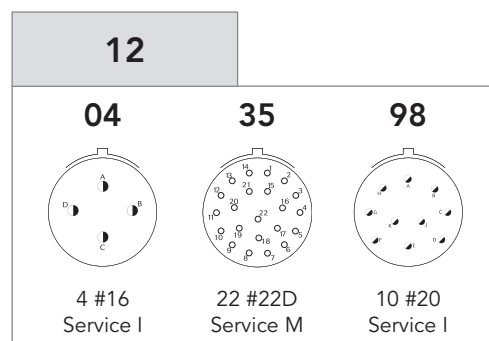
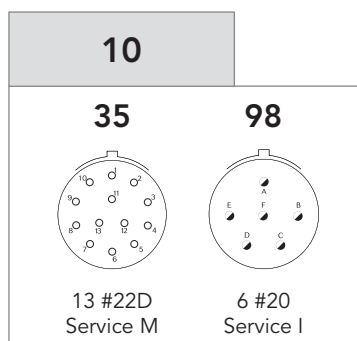
Electrical

- **Test voltage:**
Service I: 1800V
Service M: 1300V
- **Contact resistance:** 2 mΩ
- **Insulation resistance:**
 $\geq 5000\text{M}\Omega$ (at 500Vdc)
- **Contact rating:**
Size 16: 10 A
Size 20: 5 A
Size 22D: 3 A

Environmental

- **Operating temperature:**
-55°C to +175°C
- **Sealing mated connectors:**
IP67 (1 meter for 30 min minimum)
- **Salt spray:** 48 hours
- **Hermeticity:** $1.10^{-7} \text{ cm}^3/\text{s}$

Contact layouts (viewed from front face of male insulator)



Ordering information

Basic series	8STA	7	Y	10	98	P	N	022
Shell type	7: Jam nut receptacle							
Class	Y: Hermetic version							
Shell size	10, 12, 14							
Contact layout	See previous page for available layouts							
Type of contact	P: Pin contacts							
Orientation	N: Red / A: Yellow / D: Green							
Specification (mandatory)	022: Fuel immersible version							

Dimensions

Jam nut receptacle

Panel thickness: 1.5 to 5

Shell size	ø A max.	ø B max.	C max.	ø D max.	E Thread	Panel cut out	
						ø F ±0.10	G ±0.20
10	15.04	28.40	25.95	20.50	M18 x 1	17.70	16.80
12	19.09	33.00	30.75	23.67	M21 x 1	22.70	20.90
14	22.26	36.30	33.85	26.84	M24 x 1	25.70	24.10

Connector weight

Maximum in grams

Shell size	Jam nut receptacle
10	35
12	52
14	63

Note: All dimensions are in millimeters (mm)

Description

- Solder contacts on both sides of bulkhead
- Designed for high vibration environment
- Wire soldered on both sides of the feed-through: no plugs needed
- Cost and space saving:
 - . Adapted to space-constrained area
 - . No plugs necessary
- Easy to solder:
 - . Contacts fully tin plated
 - . Different contact sizes available
- High performance sealing: $<1.10^{-7}$ atm.cm³/s

Technical features

Mechanical

- **Shell:** Stainless steel
- **Shell plating:** Passivated
- **Insulator:** Glass bead
- **Contact:** Nickel iron, tin plated

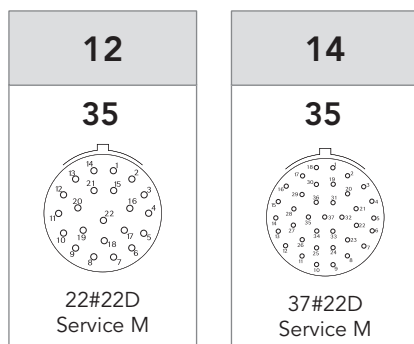
Electrical

- **Test voltage:** Service M: 1300V
- **Contact resistance:** 2 mΩ
- **Insulation resistance:**
 - ≥ 5000MΩ (at 500Vdc)
- **Contact rating:** Size 22D: 3 A

Environmental

- **Operating temperature:**
 - 55°C to +175°C
- **Sealing mated connectors:**
 - IP67 (1 meter for 30 min minimum)
- **Salt spray:** 48 hours
- **Hermeticity:** 1.10^{-7} cm³/s

Contact layouts (viewed from front face of male insulator)

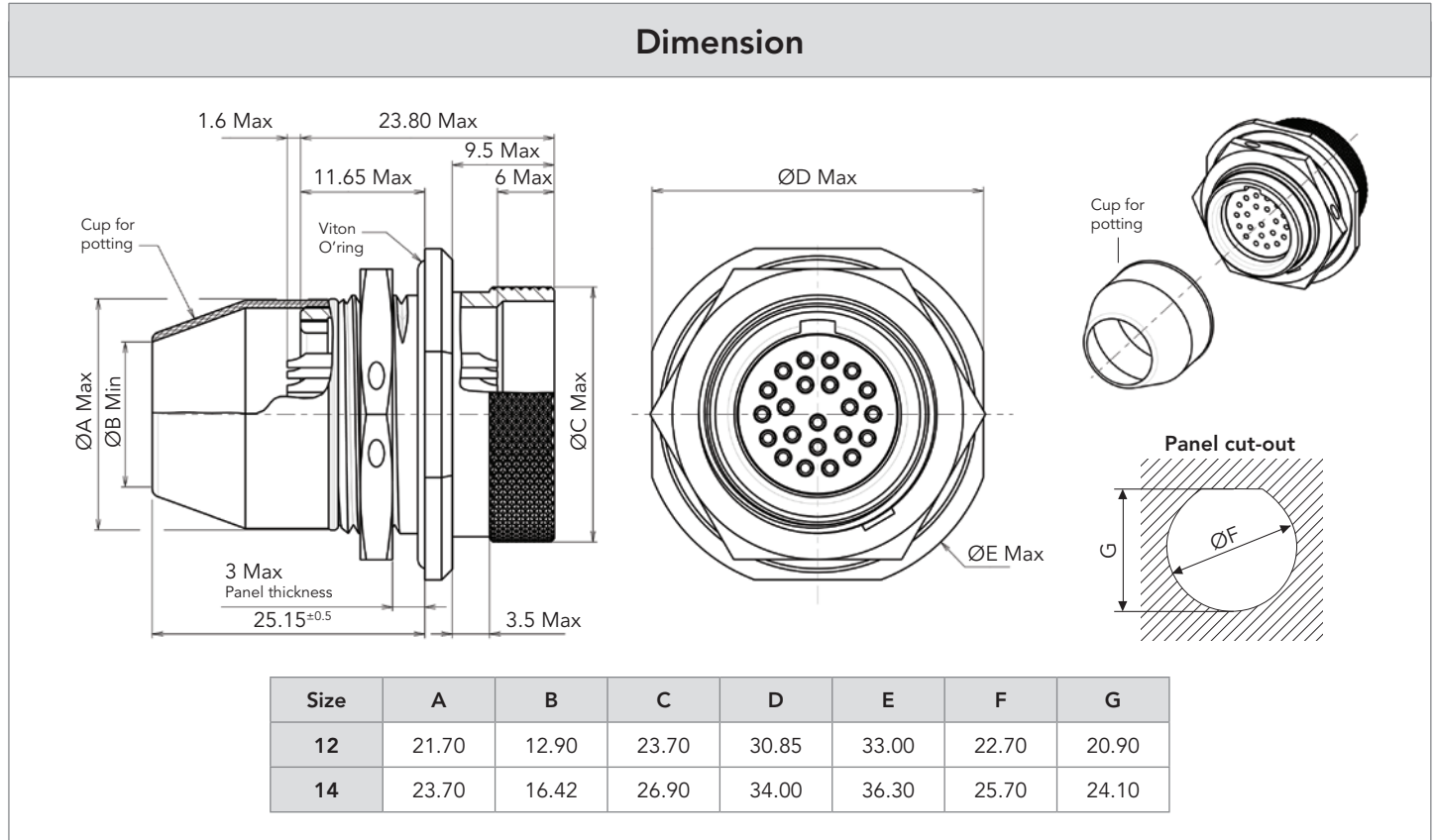


Consult us for other layouts or shell sizes.

Ordering information

Basic series	8STA	7	Y	12	35	199
Shell type	7: Jam nut receptacle					
Class	Y: Hermetic version					
Shell size	12, 14					
Contact layout	35					
Specification	199: #22 solder cup contacts on both sides					

Note: Delivery will contain the cup for potting and the jam nut receptacle not mounted. Consult us for other layouts or shell sizes.



Note: All dimensions are in millimeters (mm)



Description

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

Technical features

Mechanical

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

Electrical

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

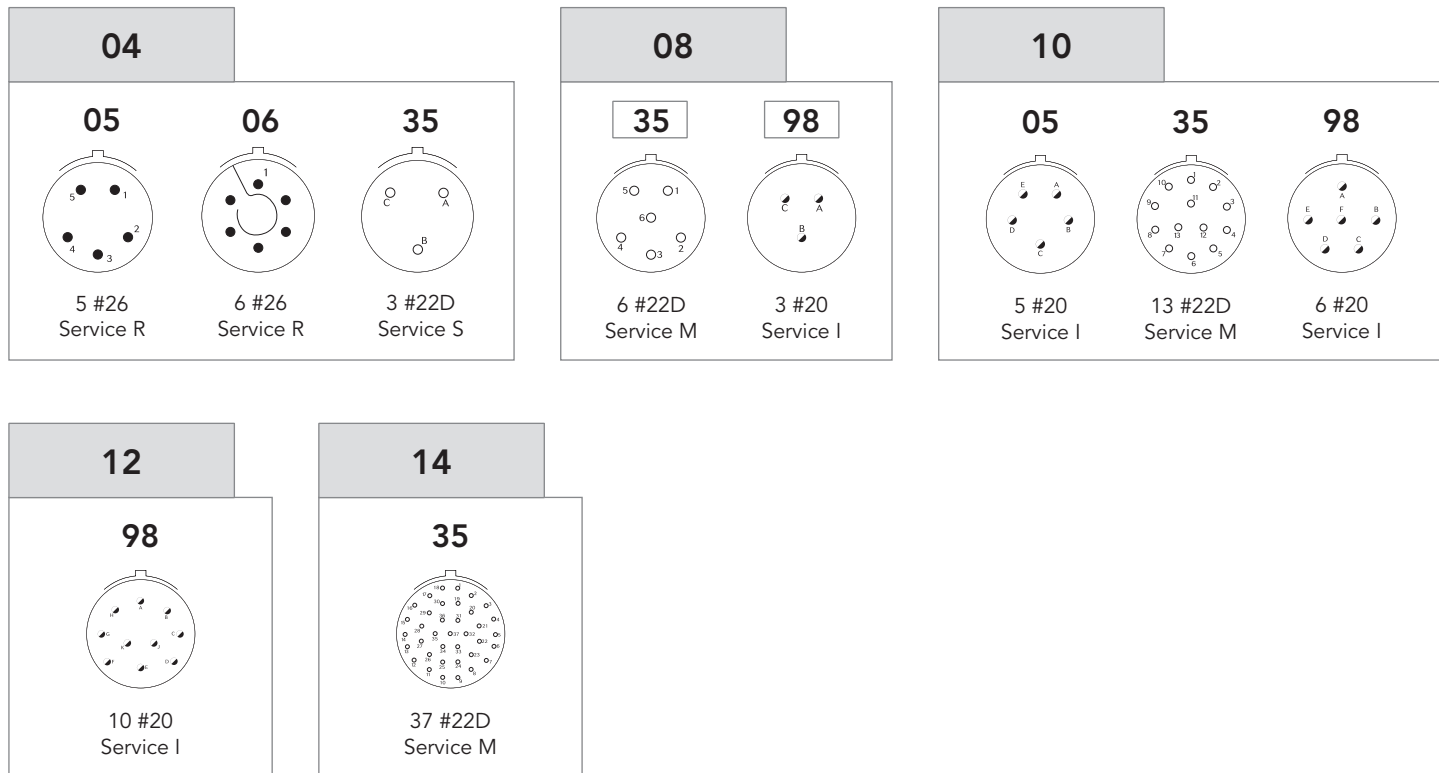
Environmental

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

Ordering information

Basic series	8STA 8TA	0 0	08 08	35 35	P P	N N	022 022
Shell type							
0: Oval flange receptacle							
1: In-line receptacle							
6: Plug							
7: Jam nut receptacle							
Shell size							
04, 08, 10, 12, 14, 16							
Contact layout							
See below for available layouts							
Type of contact							
P: Pin contacts							
S: Socket contacts							
Orientation							
N: Red							
A: Yellow							
D: Green							
Specification (mandatory)							
022: Fuel immersible version							

Contact layouts (viewed from front face of male insulator)



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

8STA/8TA SERIES

8STA/8TA Series

Common Section

■ Crimp contacts	56
■ PC Tail contacts	57
■ Wiring instructions.....	57
■ Filler plugs.....	58
■ Crimping tools.....	58
■ Insertion and extraction tools.....	59
■ Boots, Shrinkable termination detail	59
■ Metal protective caps.....	60
■ Nut plates, Gaskets	61

Contacts

Crimp contacts

Series	Contact size	Shell size & layout	Contact type	Contact Ø max.	Part numbers	Admissible wire section				External Ø over insulation (mm)		
						mm ²		AWG		Min.	Max.	
						Min.	Max.	Min.	Max.			
8STA Series	#26 High Density	06-05	Pin	0.50	8593 0998 A	0.055	0.215	30	24	0.60	0.83	
			Socket		8593 0999 A							
		Shell sizes 08 to 24	Pin		8599-0297							
			Socket		8599-0298							
		04-05	Pin		8593-0947 A							
			Socket		8593-0948 A							
		02-05; 04-06 06-09	Pin		8599-1001							
			Socket		8599-1002							
	#22D Signal contact	Shell sizes 08 to 24	Pin	0.76	8599-0702 JJ	0.090	0.380	28	22	0.76	1.37	
			Socket		8599-0706 900							
		02-35; 04-35 06-35	Pin		8599-0702 JJ	0.090	0.380	28	22	0.71	1.37	
			Socket		8599-0710 900							
	#20 Signal contact	Shell sizes 08 to 24	Pin	1.00	8599-0703 SA	0.215	0.600	24	20	1.02	2.11	
			Socket		8599-0707 900							
	#16 Signal contact	Shell sizes 08 to 24	Pin	1.60	8599-0704 MJ	0.600	1.340	20	16	1.65	2.77	
			Socket		8599-0708 900							
	#16 Coaxial contact	Shell sizes 08 to 24	Pin	1.60	M39029/76 424	RG 174; RG 179; RG 316				1.65	2.60	
			Socket		M39029/77 428							
	#12 Signal contact	Shell sizes 08 to 24	Pin	2.40	8599-0705 MJ	1.910	3.180	14	12	2.46	3.61	
			Socket		8599-0709 900							
	#12 Coaxial contact	Shell sizes 08 to 24	Pin		2.40	M39029/102 558	RG 174; RG 179; RG 316				2.40	2.60
			Socket			M39029/103 559						
	#08 Power contact	Shell sizes 08 to 24	Pin	3.64	8599-7580	-	8.980	-	8	4.50	6.50	
			Socket		8599-7581							
Boot			8599-4542									
Reductor*			8599-7645									
#08 Coaxial contact	Shell sizes 08 to 24	Pin	3.64	M39029/59 366	RG 188A/U				-	2.80		
		Socket		M39029/60 367								
		Boot		8590-4571								
#08 Triaxial contact	Shell sizes 08 to 24	Pin	3.64	M39029/90-529	MIL-C17/176 00002; FILECA F2703/14				3.15	3.40		
		Socket		M39029/91-530	RAYCHEM CHEMINAX 10612;							
		Boot		8590-4571	FILOTEX M 17/176 00002							
#04 Power contact (see p.29)	Shell sizes 08 to 24	Pin	5.75	8599-7520A 900	7	10	According to wire used					
		Socket		8599-7521A 900								
		Boot		8599-4593								
		Reductor**		8400-2351A	4	16						
		Pin		8599-7520A 900								
		Socket		8599-7521A 900								
		Boot		8599-4594								
8TA Series	#22D Signal contact	08-35	Pin	0.76	8599-0702 JJ	0.090	0.380	28	22	0.71	1.37	
			Socket		8599-0710 900							
8TA Series	#20 Signal contact	08-98	Pin	1.00	8599-0703 SA	0.215	0.600	24	20	1.02	2.11	
			Socket		8599-0711 900							

* Reductor must be used for wire 8 mm²
 ** Reductor must be used for wire 8 & 10 mm²
 Note: All dimensions are in millimeters (mm)

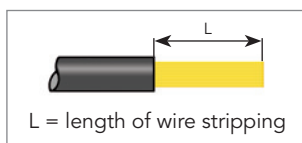
PC tail contacts

Contact size	Shell size & layout	Contact type	Contact Ø max.	Part numbers
#22D	02-35	Pin	0.76	8599 1031-JJ
		Socket		8599 1032-900
	04-35	Pin	0.76	F1P2P3C0004ALY
		Socket		F1P2ES32201A00
	Shell size 06	Pin	0.76	F1P1P3E0002AJJ
		Socket		F1P1ES32202A00
	Shell sizes 08 to 24	Pin	0.76	F1P1P3E0001ALY
		Socket		F1P1ES32201A00
#26	02-05	Pin	0.50	8593 0949 A
		Socket		8593 0950 A
	04-05	Pin		8593 0953 A
		Socket		8593 0951 A
	04-06	Pin		8593 0954 A
		Socket		8593 0952 A
	06-05	Pin		8593 1000 A
		Socket		8593 1001 A
	Shell sizes 08 to 24	Pin		8599 0292
		Socket		8599 0293
#20	Shell sizes 08 to 24	Pin	1.04	F1P1P3E0020ALY
		Socket		F1P1ES32001A00
#16	Shell sizes 08 to 24	Pin	1.61	F1P1P3E0016ALY
		Socket		F1P1ES31601A00

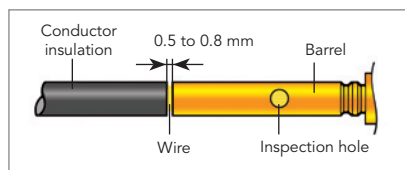
Wiring instruction

Cable preparation and wire stripping

Contact size	#26	#22D	#20	#16	#12	#8	#4
L	4		6				12



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:

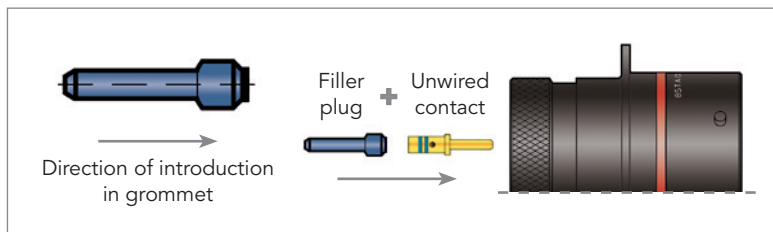
- Slide any accessories over wire strands before carrying out the following operations.
- Contacts are inserted and extracted from the rear of the connector.

Note: All dimensions are in millimeters (mm)

Filler plugs

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

Contact size	MS Part number (Rev. N)	Color	SOURIAU Part number	Color
#22D	MS27488-22-2	Black	8660-212	Black
#20	MS27488-20-2	Red	8522-389A	Red
#16	MS27488-16-2	Green	8522-390A	Blue
#12	MS27488-12-2	Orange	8522-391A	Orange



Recommended tooling

Crimp contacts

8STA Series size 02, 04 and 06 and 8TA Series

Contact size	Contact type	Wire size	Shell size & layout	Locator part number		Tool part number	
				Norm	SOURIAU	Norm	SOURIAU
#22D	Pin	22 to 28	02-35	M22520/2-09	8476-09	M22520/2-01	8476-01
	Socket		04-35				
#26	Pin	24 to 30	06-05	-	8599-0048		
			Socket		06-05		
	Pin		04-05	-	8599-0050		
			Socket		04-05		
	Pin		02-05	-	640 088		
			Socket		04-06	640 089	
			06-09				

Crimp contacts

8STA Series size 08 to 24

Contact size	Contact type	Plier M22520/1-01		Plier M22520/2-01 (SOURIAU 8476-01)		Plier M300BT	Pneumatic plier M22520/23-01	
		Turret Part number		Locator Part number		Locator Part number	Turret Part number	Locator Part number
		Norm	SOURIAU	Norm	SOURIAU			
#26	Pin	-	-	-	8599-0397	-	-	-
	Socket	-	-	-	8599-0398	-	-	-
#22D	Pin	-	-	M22520/2-09	8476-09	-	-	-
	Socket	-	-	M22520/2-06	-	-	-	-
#20	Pin	M22520/1-04	8365-04	M22520/2-10	8476-10	-	-	-
	Socket					-	-	-
#16	Pin	M22520/1-04	8365-04	-	-	-	-	-
	Socket			-	-	-	-	-
#12	Pin	M22520/1-04	8365-04	-	-	-	-	-
	Socket			-	-	-	-	-
#8	Pin	-	-	-	-	SP 593	M22520/23-02	8599-9601
	Socket	-	-	-	-			
#4	pin	-	-	-	-	-	M22520/23-04	M22520/23-11
	Socket	-	-	-	-	-		

Insertion and extraction tools

Contact size	Material	Part number		Color		
		Specification	SOURIAU	Insertion	Extraction	
#26	Shell 02 to 06	Plastic	-	8599 0444 900	Blue	Red
	Shell 08 to 24	Plastic	-	8599 0394 900	Black	White
#22D	Plastic	M81969/14-01	-		Green	White
#20	Plastic	M81969/14-10	-		Red	Orange
#16	Plastic	M81969/14-03	-		Blue	White
#12	Plastic	M81969/14-04	-		Yellow	
#8	Plastic	M81969/14-06	-		-	Red
	Metallic	-	8660 197		-	-
#4	Plastic	M81969/14-07	-		-	Blue
	Metallic	-	8533 8175		-	-



Boots

8STA Series

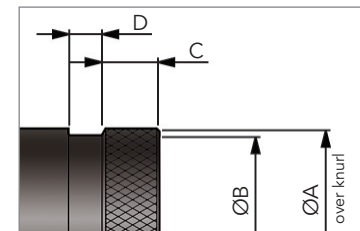
Shell size	Straight boot		90° boot	
	Raychem	Hellerman	Raychem	Hellerman
02	203W301-25-G02	1037-4-G	223W601-25	1182-4-G
04	204W221-25-G03	1037-4-G	224W221-25-G03	1182-4-G
06	204W221	1030-4-G	224W221	1181-4-G
08	202K121	152-42-G	222K121	1152-4-G
10	202K132	152-42-G	222K132	1152-4-G
12	202K142	154-42-G	222K142	1154-4-G
14	202K142	155-42-G	222K142	1155-4-G
16	202K153	156-42-G	222K153	1156-4-G
18	202K153	156-42-G	222K153	1156-4-G
20	202K163	157-43-G	222K163	1157-4-G
22	202K163	157-43-G	222K163	1157-4-G
24	202K174	157-43-G	222K174	1157-4-G

8TA Series

Shell size	Straight boot		90° boot	
	Raychem	Hellerman	Raychem	Hellerman
08	202K121	152-42-G	222K121	1152-4-G

Shrinkable termination detail

Shell size	8TA	8STA											
	08	02	04	06	08	10	12	14	16	18	20	22	24
ØA	8.65	7.20	8.65	9.90	10.62	13.72	17.26	20.41	23.6	26.76	29.93	33.11	36.3
ØB±0.05	8.00	6.55	8.00	9.25	9.70	12.65	16.02	19.00	22.23	25.22	28.37	31.86	34.67
C±0.05	2.70	2.20	2.70	4.20									6.00
D	2.30	2.30	2.30	3.50									3.50



Note: All dimensions are in millimeters (mm)

Metal protective caps with lanyard

Plug caps

Cord material: Nylon

Cap plating: Conductive Black Zinc

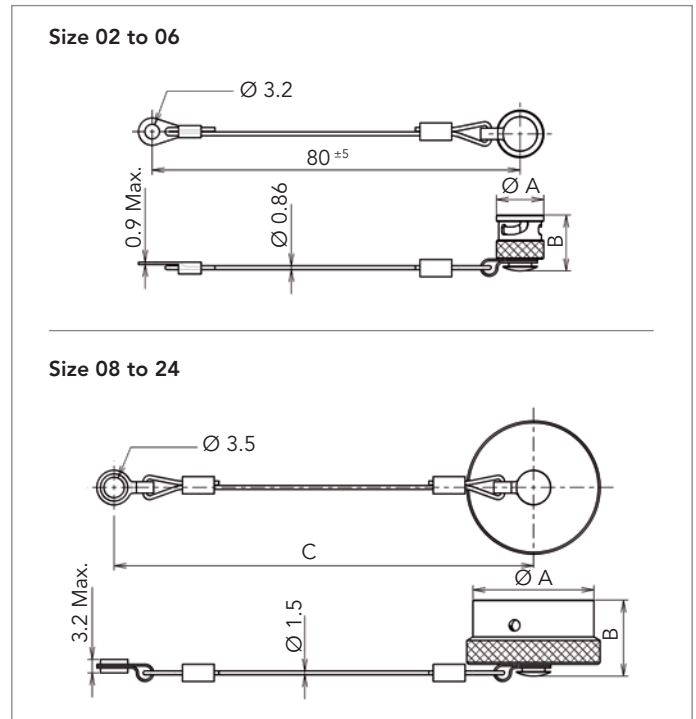
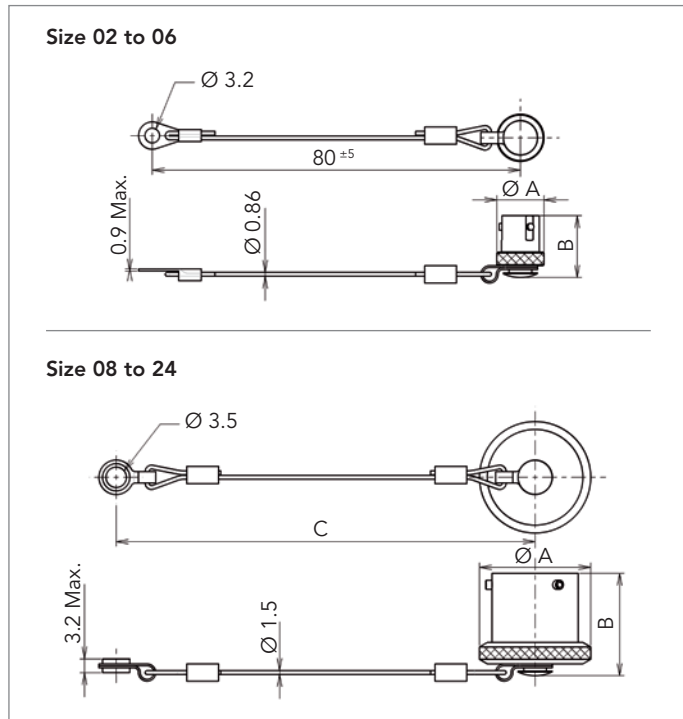
Shell size & Layout	Part number	Ø A Max.	B Max.	C ±5
02	8STA802A	10.60	13.20	-
04	8STA804A	12.20	13.80	-
06-05	8STA806A	15.25	15.50	-
06-09 06-35	8STA8F06A	15.25	15.50	-
08	8STA808A	17.50	27.44	128
10	8STA810A	20.50		128
12	8STA812A	24.50		140
14	8STA814A	27.50		140
16	8STA816A	30.90		140
18	8STA818A	34.00		140
20	8STA820A	37.20		153
22	8STA822A	40.40		153
24	8STA824A	43.50		153

Receptacle caps

Cord material: Nylon

Cap plating: Conductive Black Zinc

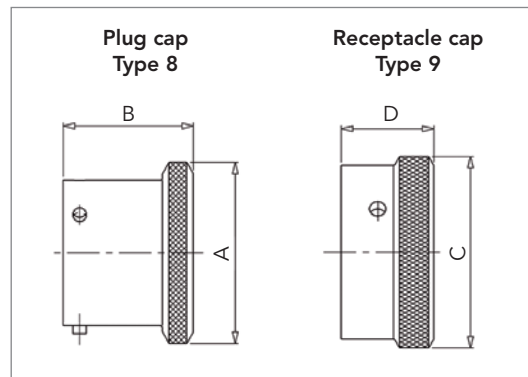
Shell size & Layout	Part number	Ø A Max.	B Max.	C ±5	
02	8STA902A	10.60	13.20	-	
04	8STA904A	13.50	13.80	-	
06-05	8STA906A	15.25	14.30	-	
06-09 06-35	8STA9F06A	15.25	14.30	-	
08	8STA908A	19.05	21.44	128	
10	8STA910A	21.85		128	
12	8STA912A	26.15		140	
14	8STA914A	29.35		140	
16	8STA916A	32.55		140	
18	8STA918A	35.35		140	
20	8STA920A	38.85		153	
22	8STA922A	42.05		153	
24	8STA924A	45.15		22.22	153



Note: All dimensions are in millimeters (mm)

Metal protective caps without lanyard

Shell size & Layout	Part numbers		Dimensions			
	Plug cap	Recep. cap	ØA Max.	B Max.	ØC Max.	D Max.
02	8STA802	8STA902	10.60	11.20	10.60	9.85
04	8STA804	8STA904	12.30	10.80	13.60	10.95
06-05	8STA8F06	8STA9F06	15.15	11.05	15.15	9.70
06-09 06-35	8STA806	8STA906	15.25	11.15	15.15	13.00
08	8TA	8TA908	-	-	-	-
	8STA	8STA908	17.50	21.00	19.00	14.20
10	8STA810	8STA910	20.50		21.80	
12	8STA812	8STA912	24.50		26.10	
14	8STA814	8STA914	27.70		29.30	
16	8STA816	8STA916	30.90		32.50	15.00
18	8STA818	8STA918	34.00		35.30	
20	8STA820	8STA920	37.20		38.80	
22	8STA822	8STA922	40.40	42.00		
24	8STA824	8STA924	43.50	45.10	15.85	



Nut plates

Nut plates are available for all 8STA sizes. Designed for oval flange receptacles with two holes. Their design was specially made for motorsport market.



Shell size	Self-locking nut thread	Part number
02	M2	8STA-02 M20
	M2.5	8STA-02 M25
04	M2	8STA-04
	M2.5	8STA-04 M25
06	M2.5	8STA-06 M25
08	M3	8STA-08
10		8STA-10
12		8STA-12
14		8STA-14
16		8STA-16
18		8STA-18
20		8STA-20
22		8STA-22
24		8STA-24

Gaskets

Gaskets are available for all 8STA sizes. They are available in Standard version (liquid silicone rubber) and Fuel tank version (fluorel).



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

Note: All dimensions are in millimeters (mm)

8STA/8TA SERIES

8STA/8TA Series

Range Extension

■ 209 Series	64
■ High power contacts	64
■ Composite connectors	65
■ micro38999 Series break away	65
■ <i>microComp</i> ® Series	66
■ 8D8/8D9 Series	66

Product range extension

209 Series

**Terminal blocks for power distribution.
Distribution of electrical current for aircraft equipment.**

Versatility:

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

Easy to install:

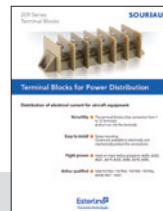
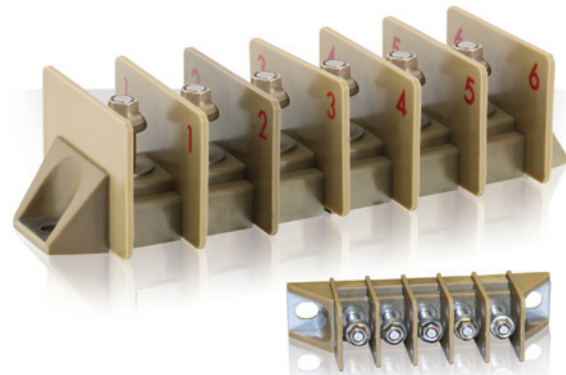
- . Screw mounting.
- . Covers are available to electrically and mechanically protect the connections.

Flight proven:

- . Used on major Airbus programs: A300, A320, A321, A319, A330, A340, A318, A380.

Airbus qualified:

- . NSA 937903 / 937904 / 937905 / 937906.
- . ASNE 0421 / 0467.



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

High Power Contacts

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

3 aluminum shell sizes available:

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

Superior contact technology equipped with a silver plated braid:

- . High contact endurance.
- . Low contact resistance.
- . No microcut under vibration.

Modular design for easy installation:

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

Safety.



See «38999 Series III, High Power Contacts» datasheet on www.souriau.com

Product range extension

Composite Connectors

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

Low weight:

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

High performance:

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

Superior design:

- . Match the latest lightning strike and 230V requirement.



micro38999 Series Break Away

micro38999, 8BA Series: miniature product with a break away release. Space saving with scoop proof connector for harsh and EMI applications.

A compact and high density solution:

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

Excellent features:

- . Designed for D38999 requirements.
- . IP67 sealing when mated.
- . Ballseal (EMI).
- . Stainless steel (1500 matings) and aluminum (500 matings).

RoHS and Cadmium free:

- . Available in zinc nickel (RoHS) plating.
- . Nickel and olive drab cadmium plating available.



Product range extension

microComp® Series

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

Very light & high density:

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

Excellent features:

- . With crimp removable contacts for wire AWG 24 to 28.
- . Temperature up to 175°C.
- . High vibration and shock withstanding.
- . Standard MIL-STD 83513 accessories.
- . Compatible with high speed data rates (Gigabit Ethernet...).

Quick connect version for harsh environment:

- . 104 contacts push-push.



See «microComp® Series» datasheet on www.souriau.com

8D8/8D9 Series

8D8: high vibration push-pull connector.
8D9: lanyard quick release, high performance.

A wide range with excellent performances:

- . MIL-DTL-38999 layouts and contacts
- . MIL-DTL-38999 Series electric performances
- . Scoop proof
- . Compatible with standard backshells 38999 Series III
- . Very high performance coupling with ball locking concept, check of locking by free ring when mated.

Easy to connect-disconnect:

- . 8D8 Series: ideal for restricted space mating.
- . 8D9 Series: simple push to connect - pull to disconnect.

High vibration performance:

- . Up to 44g
- . 8D8 Series: ideal for mil-aero and space applications.
- . 8D9 Series: ideal for missiles, inter-stage separation, UAVs, space probes.



See «8D8/8D9 Series - 38999 Push-pull/Quick release» catalog on www.souriau.com

Reliable People, Reliable Solutions



Your local contact



Our contribution to environmental protection:
This catalog is printed on PEFC certified paper
Advancement of sustainable wood cultivation. www.pefc.org

www.souriau.com
contactmilaero@souriau.com



SOURIAU