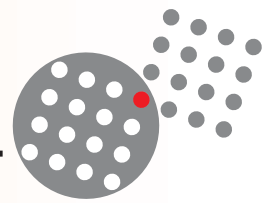


8STA Circular Miniature Connector Size 08 to 24



FEATURES

- Derived from MIL-DTL 38999 (Eurofighter JN 1003 connector) utilises the extensive SOURIAU range of 38999 medium, high density, power, coaxial and triaxial contact layouts.
- Rugged aluminium body to ensure long time service life in the harshest environment.
- The 8STA range covers connectors from shell size 08 to 24 in 5 shell style :
 - 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 IP 67).
 - Positive locking mechanism with locked colour indicator.
 - 6 colours coded keyway orientations.
 - Boot termination feature.



TECHNICAL CHARACTERISTICS

Mechanical characteristics

Shell	Aluminium alloy	
Shell plating	Conductive black zinc	
Insulator	Thermoplastic	
Grommet and seal	Liquid silicone rubber	
Contact	Copper alloy	
Contact plating	Gold	
Endurance	500 mating/unmating operations	
Shock	300 g for 3 ms and MILS-901 Grade A	
Vibration	147 m/s ² , 10 to 2000 Hz (min. force in N)	
Contact retention	Size 22D : 45 N Size 20 : 60 N	Size 16 : 100 N Size 12 : 110 N

Electrical characteristics

Test voltage rating (Vrms)	Service	M	N	I	II
	Sea level	1300	1000	1800	2300
Contact resistance	Size 22D : 14.6 mΩ		Size 16 : 3.8 mΩ		
Resistance of wire included in measurement	Size 20 : 7.3 mΩ		Size 12 : 1.7 mΩ		
Insulation resistance (at 500 Vdc)	≥ 5000 mΩ				
Contact rating	Size 22D : 5 A Size 20 : 7.5 A		Size 16 : 13 A Size 12 : 23 A		
Shell continuity	≤ 10 mΩ				

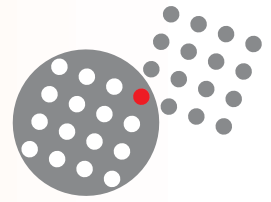
Climatic characteristics

Temperature range	-55°C to +175°C
Sealing: mated connectors	IP 67
Salt spray	48 hours

Resistance to fluids

Lubricant (oil)	MOTUL 300 competition
Unleaded petrol	(SP 95)
Motor car brake fluid	Lockheed DOT5

8STA Shell Size 08-24



ORDERING INFORMATION

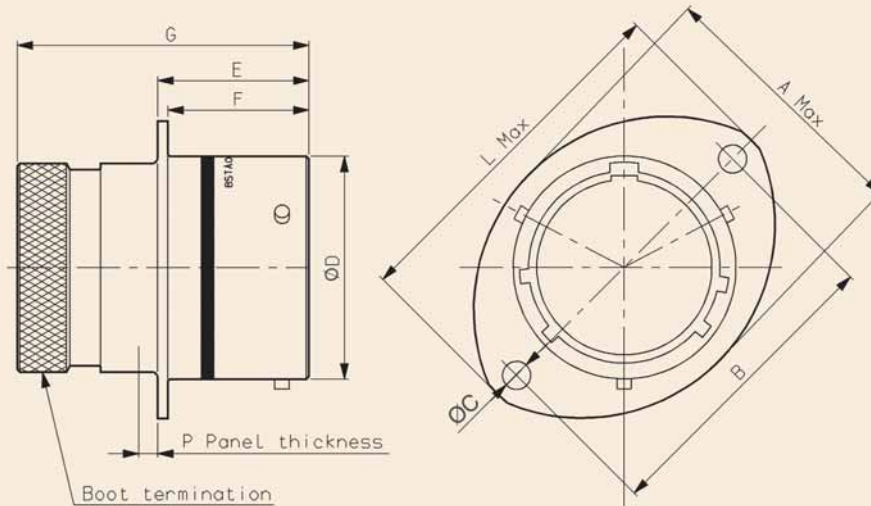
Basic series	8STA	0	10	35	P	N
Shell style:	0: Oval flange receptacle (for front or rear mounting) 1: In line receptacle 2: Oval flange receptacle with PCB contacts 6: Plug 7: Jam nut receptacle					
Shell size:	08-10-12-14-16-18-20-22-24					
Contact layouts:	See page 35					
Type of contacts:	P: Pin contacts S: Socket contacts					
Orientation:	N: Red - A: Yellow - B: Blue - C: Orange - D: Green - U: Universal					

Protective caps

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

Type 8STA0 ** Oval flange receptacle

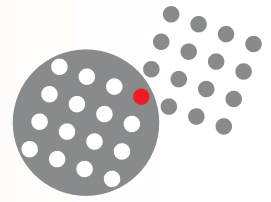
See table orientation page 29 for Key position



Shell size	A Max.	B ±0,20	Ø C ⁰ / _{+0.1}	Ø D ^{+0.2} / _{-0.13}	E ⁰ / _{+0.15}	F ⁰ / _{-0.13}	G Max.	L Max.	P Max.
08	16.50	21.40	3.20	12.00	17.21	16.05	33.50	27.20	3.00
10	19.50	25.90		15.00					
12	24.00	29.10		19.05					
14	27.00	32.50		22.22					
16	30.30	34.80		25.40					
18	33.70	38.20		28.57					
20	37.00	41.60		31.75					
22	40.40	45.00	34.90	15.29	51.00				
24	43.40	49.50	3.77		38.10	18.20	55.80		

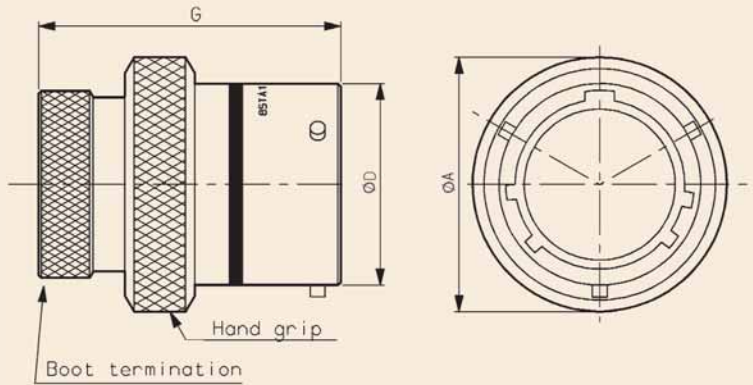
Panel cut out : see page 30

8STA Shell Size 08-24



Type 8STA1 ** In line receptacle

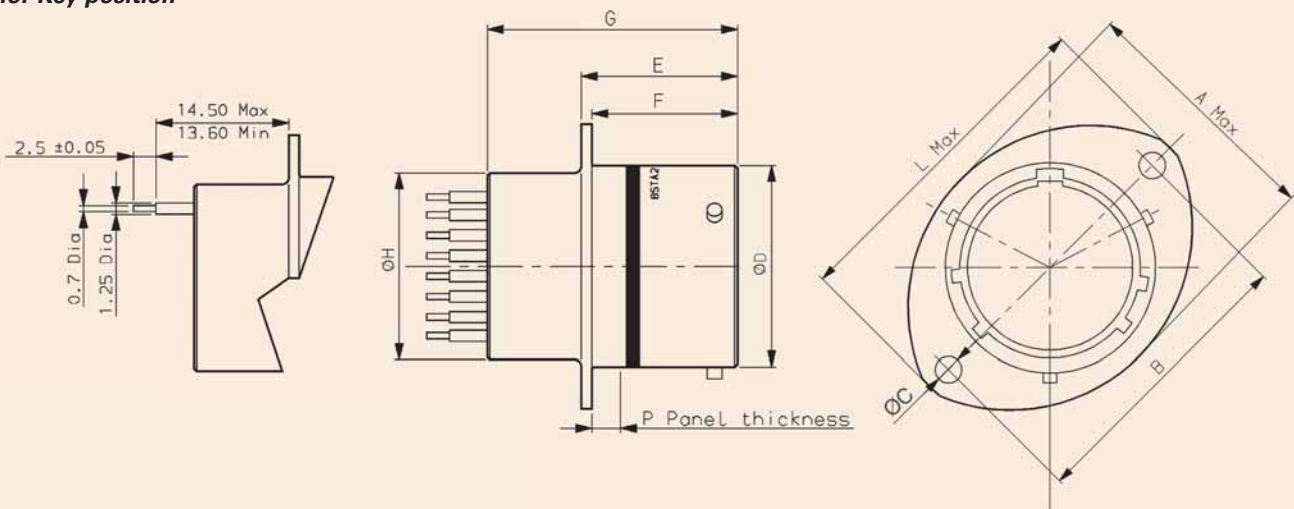
See table orientation page 29 for Key position



Shell size	Ø A Max.	Ø D ^{+0.20} / _{-0.13}	G Max.
08	17.60	12.00	33.50
10	20.70	15.00	
12	25.10	19.05	
14	28.30	22.22	
16	31.40	25.40	
18	34.70	28.57	
20	38.10	31.75	
24	44.70	38.10	

Type 8STA2 ** Oval flange receptacle with PCB contacts

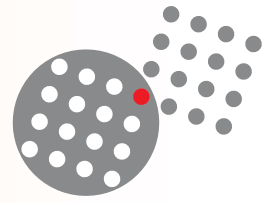
See table orientation page 29 for Key position



Shell size	A Max.	B ±0.20	Ø C ⁰ / _{+0.1}	Ø D ^{+0.20} / _{-0.13}	E ⁰ / _{+0.15}	F ⁰ / _{-0.13}	G Max.	ØH Max.	L Max.	P Max.
08	16.50	21.40	3.20	12.00	17.21	16.05	27.65	11.10	27.20	3.00
10	19.50	25.90		14.97						
12	24.00	29.10		19.05						
14	26.90	32.50		22.22						
16	30.30	34.80		25.40						
18	33.70	38.20		28.57						
20	37.00	41.60		31.77						
22	40.20	45.00		34.90						
24	43.40	49.50	3.77	38.10	18.20	15.29	36.40	55.80		

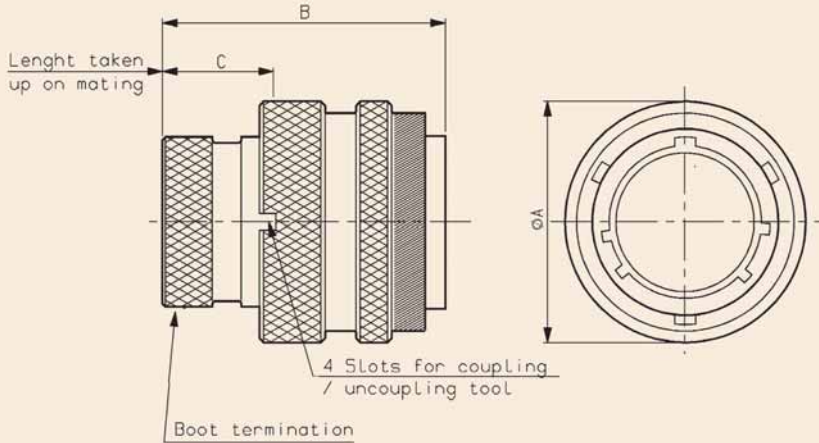
Panel cut out : see page 30

8STA Shell Size 08-24



Type 8STA6 ** Plug

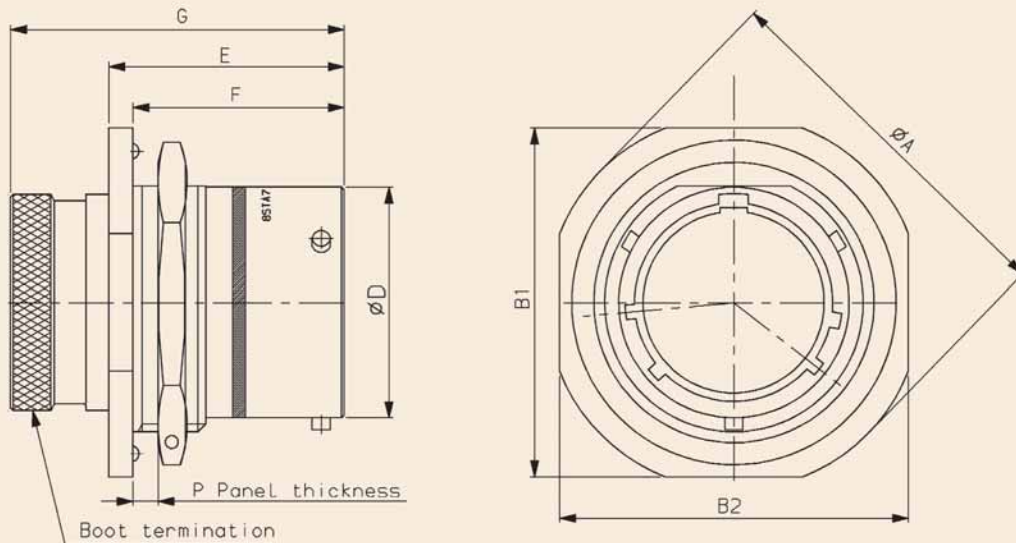
See table orientation page 29 for Key position



Shell size	Ø A Max.	B Max.	C Max.
08	18.70	33.50	15
10	21.50		
12	25.10		
14	29.00		
16	32.20		
18	35.40		
20	38.20		
22	41.30		
24	44.50		

Type 8STA7 ** Jam nut receptacle

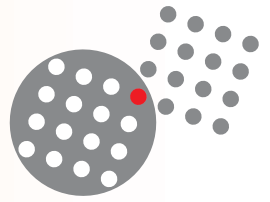
See table orientation page 29 for Key position



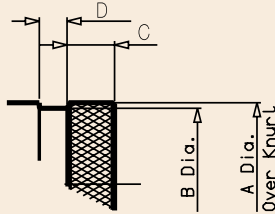
Shell size	Ø A ±0.03	B1-B2 ±0.24	Ø D $^{0}_{-0.12}$	E ±0.10	F ±0.24	G ±0.3	P Max.
08	26.90	24.10	11.97	25.91	23.24	36.71	3.00
10	30.15	27.30	14.94				
12	34.89	32.10	19.01				
14	38.06	34.92	22.18				
16	41.25	38.40	25.36	26.71		37.51	
18	44.41	41.60	28.53				
20	49.19	46.30	31.71				
22	52.33	49.50	34.88				
24	55.50	52.45	38.06				

Panel cut out : see page 30

8STA Shell Size 08-24

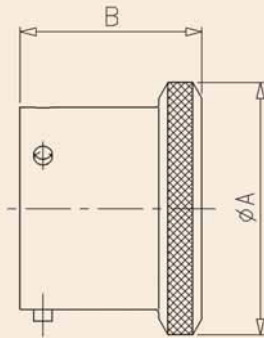


Shrinkable termination detail



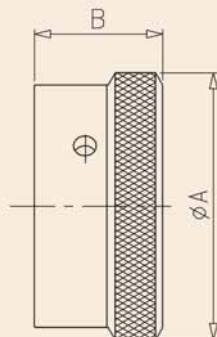
Shell size	Ø A	Ø B ±0.05	C ±0.05	D
08	10.62	9.70	6	3.5
10	13.72	12.65		
12	17.26	16.02		
14	20.41	19.00		
16	23.60	22.23		
18	26.76	25.22		
20	29.93	28.37		
22	33.11	31.86		
24	36.30	34.67		

Metal protective caps – Plug type 8



Shell size	Ø A Max.	B Max.
08	17.50	21.00
10	20.50	
12	24.50	
14	27.70	
16	30.90	
18	34.00	
20	37.20	
22	40.40	
24	43.50	

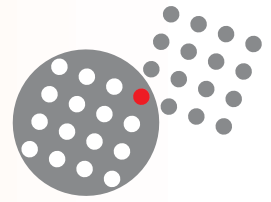
Metal protective caps – Receptacle caps type 9



Shell size	Ø A Max.	B Max.
08	19.00	14.20
10	21.80	
12	26.10	
14	29.30	
16	32.50	15.00
18	35.30	
20	38.80	
22	42.00	
24	45.10	



8STA Shell Size 08-24



CONTACTS (Crimp & PCB contacts)

Size	Type	Contact dia Max	Part number	Admissible wire section				External dia over insulation (mm)	
				AWG		mm ²		min	max
Crimp contacts				min	max	min	max	min	max
22D signal contact	Male	0.76	8599-0702 JJ	28	22	0.09	0.38	0.76	1.37
	Female		8599-0706 900						
20 signal contact	Male	1.00	8599-0703 SA	24	20	0.21	0.60	1.02	2.11
	Female		8599-0707 900						
16 signal contact	Male	1.60	8599-0704 MJ	20	16	0.60	1.34	1.65	2.77
	Female		8599-0708 900						
16 coaxial contact	Male	1.60	M39029/76 424	RG 174 RG 179 RG 316				1.65	2.60
	Female		M39029/77 428						
12 signal contact	Male	2.40	8599-0705 MJ	14	12	1.91	3.18	2.46	3.61
	Female		8599-0709 900						
12 coaxial contact	Male	2.40	M39029/28 211	RG 174 RG 179 RG 316				2.40	2.60
	Female		M39029/75 416						
08 power contact	Male	3.64	8599-7544	-	8	-	8.98	4.50	6.50
	Female		8599-7541						
	Boot		8599-4542						
	Reductor**		8599-7645						
08 coaxial contact	Male	3.64	M39029/59 366	RG 188A/U				-	2.80
	Female		M39029/60 367						
	Boot		8590-4571						
08 triaxial contact	Male	3.64	M39029/90-529	MIL-C17/176 00002 FILECA F2703/14 RAYCHEM CHEMINAX 10612 FILOTEX M 17/176 00002				3.15	3.40
	Female		M39029/91-530						
	Boot		8590-4571						
04 power contact	Male	5.75	8599-7520A 900	7		10	According wire used		
	Female		8599-7521A 900						
	Boot		8599-4590						
	Reductor*		8400-2351A	4		16			
	Male		8599-7520A 900						
	Female		8599-7521A 900						
	Boot		8599-4591						

*Reductor must be used for wire 10 mm²

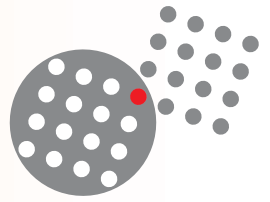
**Reductor must be used for wire # 10

PCB contacts			
22D signal contact	For shell Type 2	Male	F1P1P3E-0001ALY
		Female	F1P1ES3-2201A00

Power connector : Power single contact # 4 for wires 10,16, 25, 35mm² : Please consult us.
Grounded connector : Please consult us

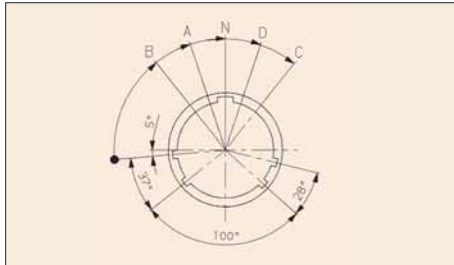


8STA Shell Size 08-24

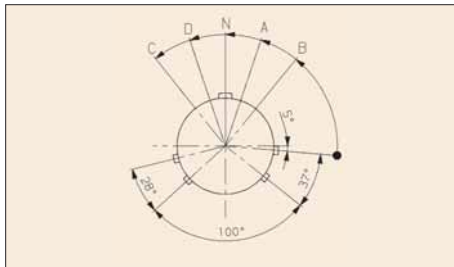


ORIENTATION

Viewed from face of receptacle



Viewed from front of plug



Shell size	Orientations				
	N RED	A YELLOW	B BLUE	C ORANGE	D GREEN
8	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 others orientations

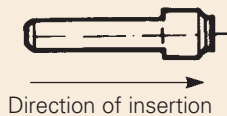
Insertion and extraction of wired contacts

Coloured tip for insertion
white tip for extraction.



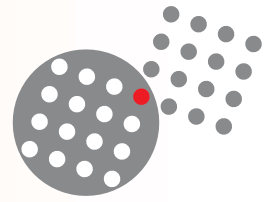
Contact size	Material	Part number		Part number	
		Spec.	SOURIAU	Insertion	Extraction
22D	plastic	M81969.14.01	-	Green	White
20	plastic	M81969.14.10	-	Red	
16	plastic	M81969.14.03	-	Blue	
12	plastic	M81969.14.04	-	Yellow	
8	plastic	M81969/14-06	-	-	Red
	metallic	-	8660-197	-	-
4	plastic	M81969/14-07	-	-	-
	metallic	-	8533-8175	-	-

Filler Plug

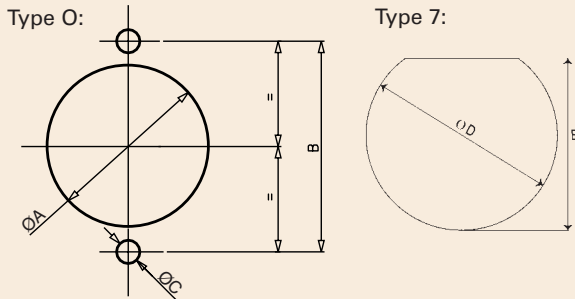


Contact size	Part number		Colour
	Spec.	SOURIAU	
22D	MS27488-22	8660-212	Black
20	MS27488-20	8522-389A	Red
16	MS27488-16	8522-390A	Blue
12	MS27488-12	8522-391A	Yellow

8STA Shell Size 08-24



Panel cut-out



Shell size	$\varnothing A \pm 0.10$	$B \pm 0.20$	$\varnothing C \pm 0.20$	$\varnothing D \pm 0.10$	$E \pm 0.20$
08	14.50	21.40	3.60	14.50	13.60
10	17.40	25.90		17.70	16.80
12	21.90	29.10		22.70	20.90
14	25.00	32.50		25.70	24.10
16	28.20	34.80		28.80	27.20
18	31.40	38.20		32.00	30.40
20	34.60	41.60		35.10	33.60
22	37.60	45.00	38.00	36.80	
24	41.00	49.50	4.10	42.00	39.90

WIRING TOOLS

Wire stripping



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

Crimping (contacts sizes : 22D, 20, 16, 12, 8 & 4)

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

* Pneumatic pliers for contacts

M 22 520/1-01 + M 22 520/1-04

M22520/2-01 + M22520/2-09 or / order M22520/2-07



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