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Aerospace & Military Bayonet Connectors

MIL-DTL-38999 Series I

8LT Series

MIL-DTL-38999 Series I



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8LT Series

8LT Series

Overview

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8LT Series

MIL-DTL-38999 Series I

8LT Series - Presentation

High contact density connectors with high reliability

38999 Series I: 8LT Series

This 8LT product family is qualified in accordance to the MIL-DTL-38999 Series I.

Originally designed to meet the high performance needs of the aerospace industries & military applications, it is also now used in varied applications needing extremely reliable interconnections with high density contact arrangements in a miniature circular shell.



- ▶ Weight and Space Saving
- ▶ Quick Mating - 3 point bayonet lock system
- ▶ Mismatching, error proof positioning - keyway polarization (5 positions)
- ▶ High choice of Insert arrangements (customization possible, please consult us)
- ▶ Range extension available on demand (Rack Panel, Potted, Hermetics, Low Profile, Filters, etc..), please consult us
- ▶ Versatility thanks to our inserts as for the series III (except for 8LT type 2) with full range of crimp contacts interchangeable
- ▶ Gold plated crimp or PC tail contacts are rear removable and retained in the insulator by a metal clip.
- ▶ RoHS version available (cadmium free)

8LT Series - Applications

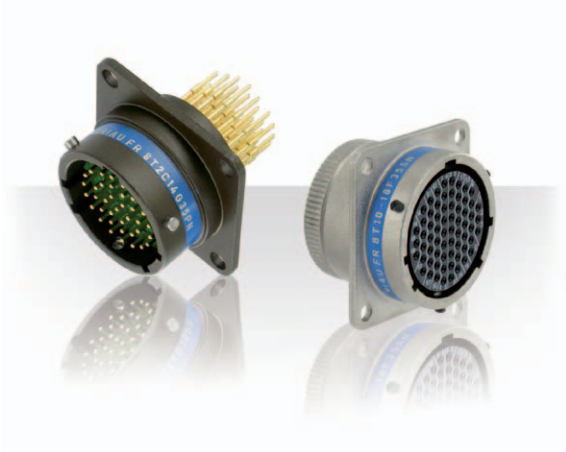


- Civil and Military Aerospace
- Marine Equipments
- Communications Equipements
- Medical Instrumentation
- Ballistic Missiles & Weapon Systems
- Armored Carriers & Tanks
- Test Equipments

8LT Series

MIL-DTL-38999 Series I

A universal product platform: MIL-DTL-38999



38999 Series II: 8T Series

- ▶ Short version of MIL-DTL-38999 Series I
- ▶ Low profile = lightweight
- ▶ High density MIL-spec circular (1980's)
- ▶ Non-scoop proof, bayonet coupling
- ▶ Method of mounting: screws or jam nut
- ▶ Shell: Aluminum alloy
- ▶ Plating: cadmium, nickel, hard anodized
- ▶ QPL approved
- ▶ Numerous layouts



38999 Series III: 8D Series

- ▶ High density MIL-spec circular (1980's)
- ▶ Scoop proof, fast screw coupling
- ▶ Composite light-weight version available
- ▶ QPL approved
- ▶ Titanium version, light-weight, mechanical and environmental performances
- ▶ Quadrax and Elio version
- ▶ Specific versions (clinch nuts, double flange, high power, hermetic, ...)

A universal product platform: VG96912 & JN1003



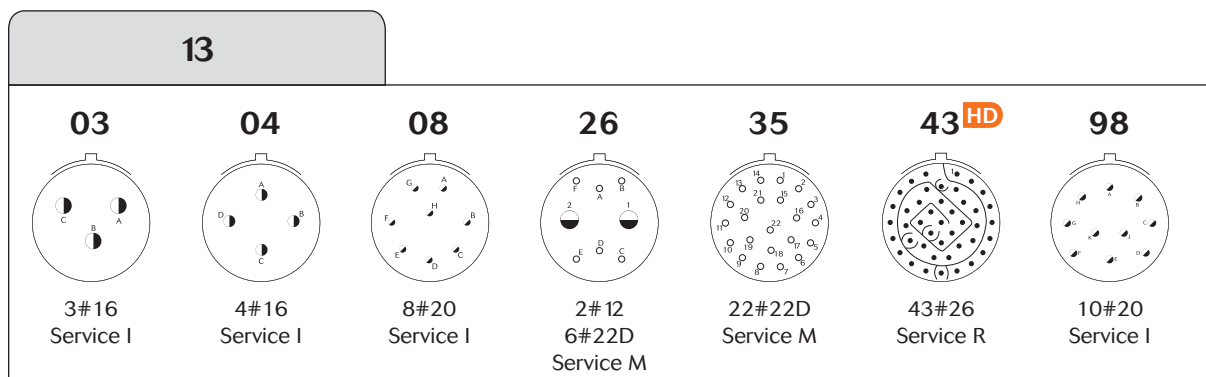
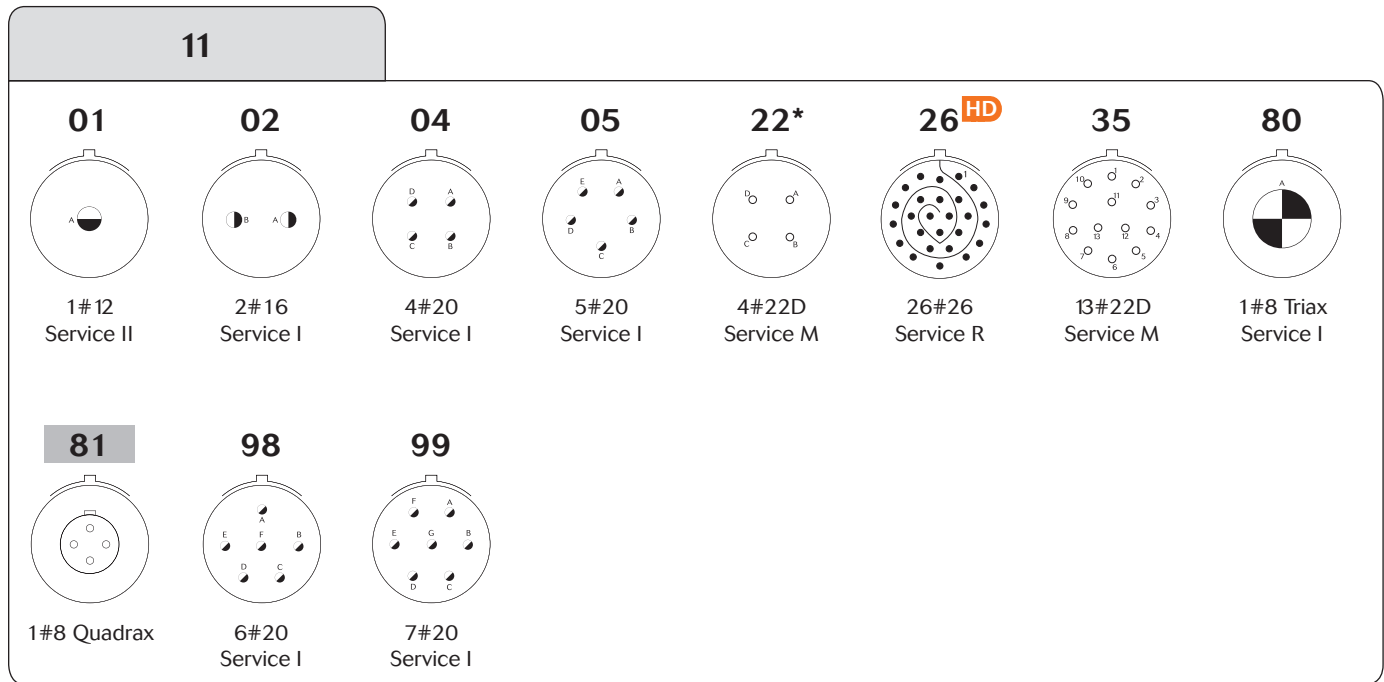
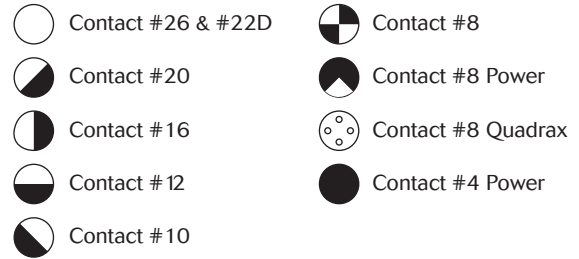
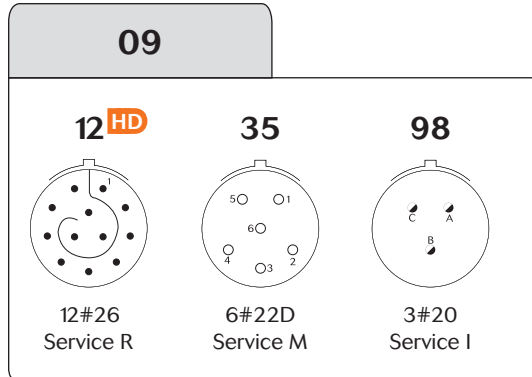
8ST Series

- ▶ High density - same layouts as 38999 Series I
- ▶ Lightweight version of Series I
- ▶ Scoop proof, bayonet coupling
- ▶ Method of mounting: screws or jam nut
- ▶ Shell: Aluminum alloy
- ▶ Plating: olive green cadmium or nickel
- ▶ VG 96912 German specification
- ▶ JN 1003 Typhoon specification

8LT Series

MIL-DTL-38999 Series I

Contact layouts

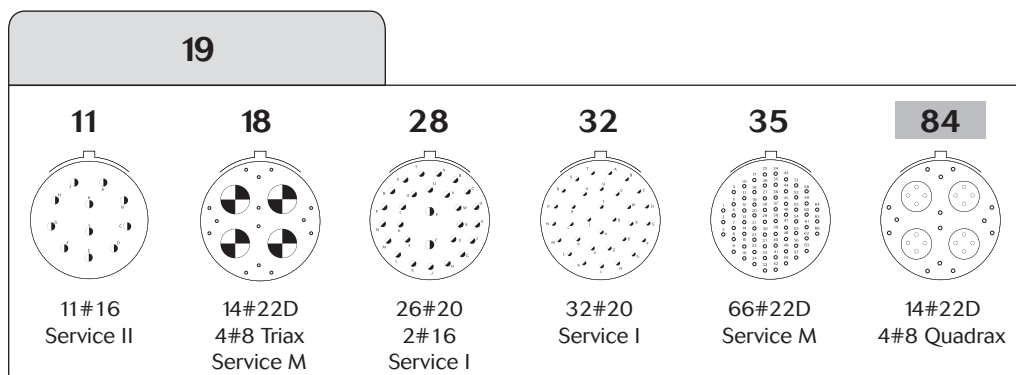
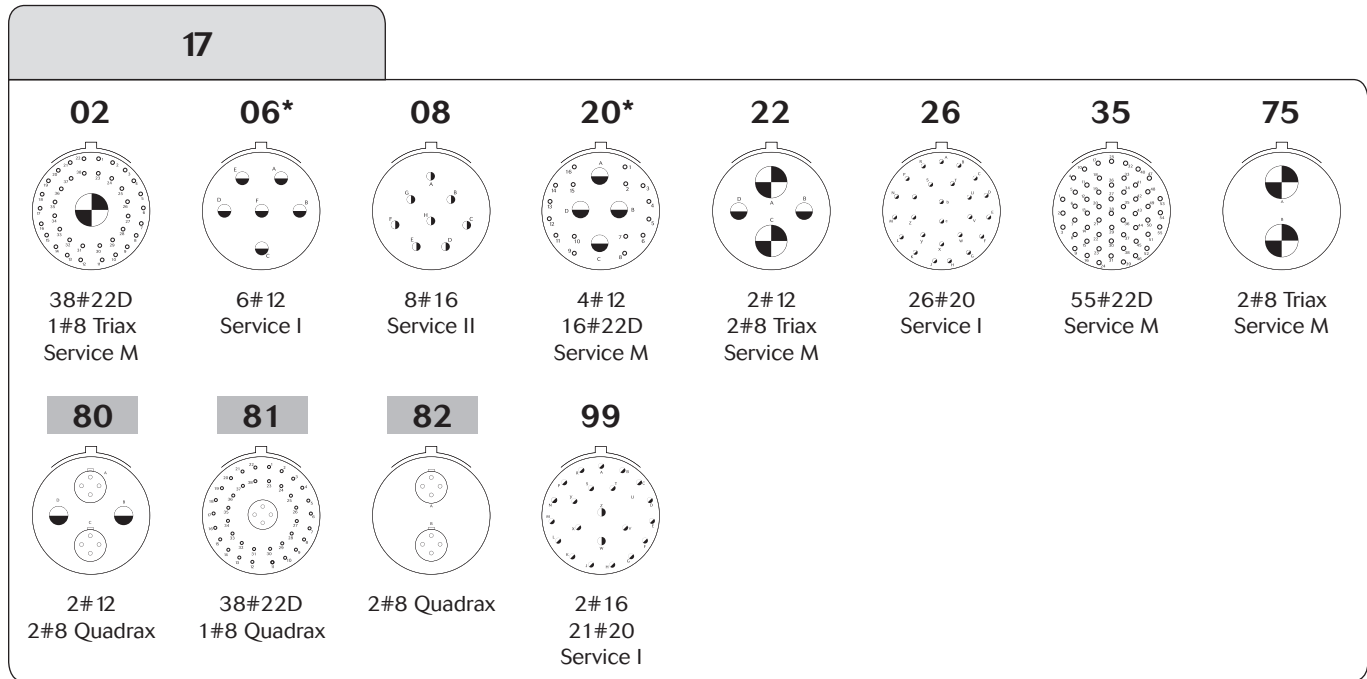
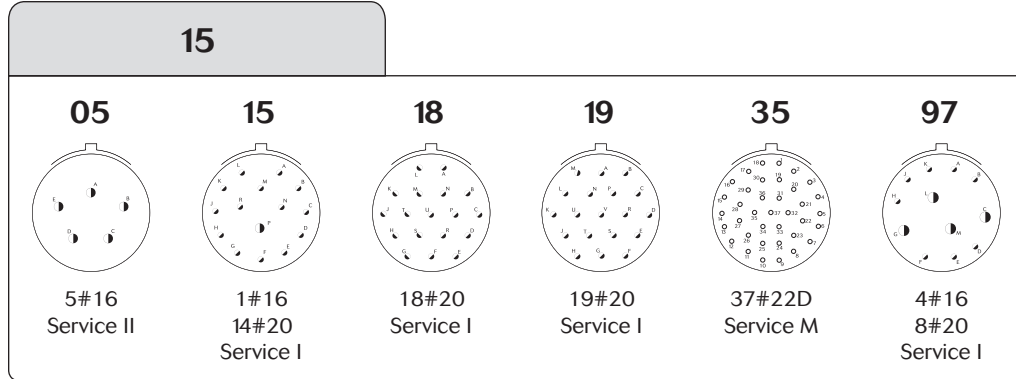


Ethernet Quadrax **HD** High Density layout * Available on specific request. Please consult us.

8LT Series

MIL-DTL-38999 Series I

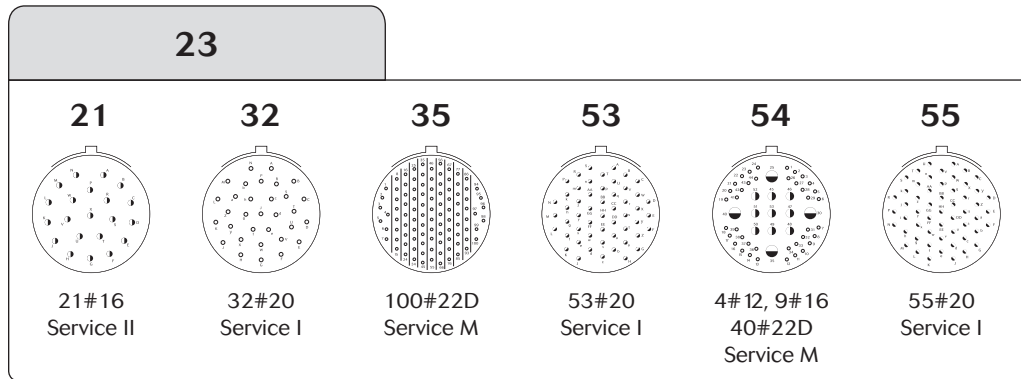
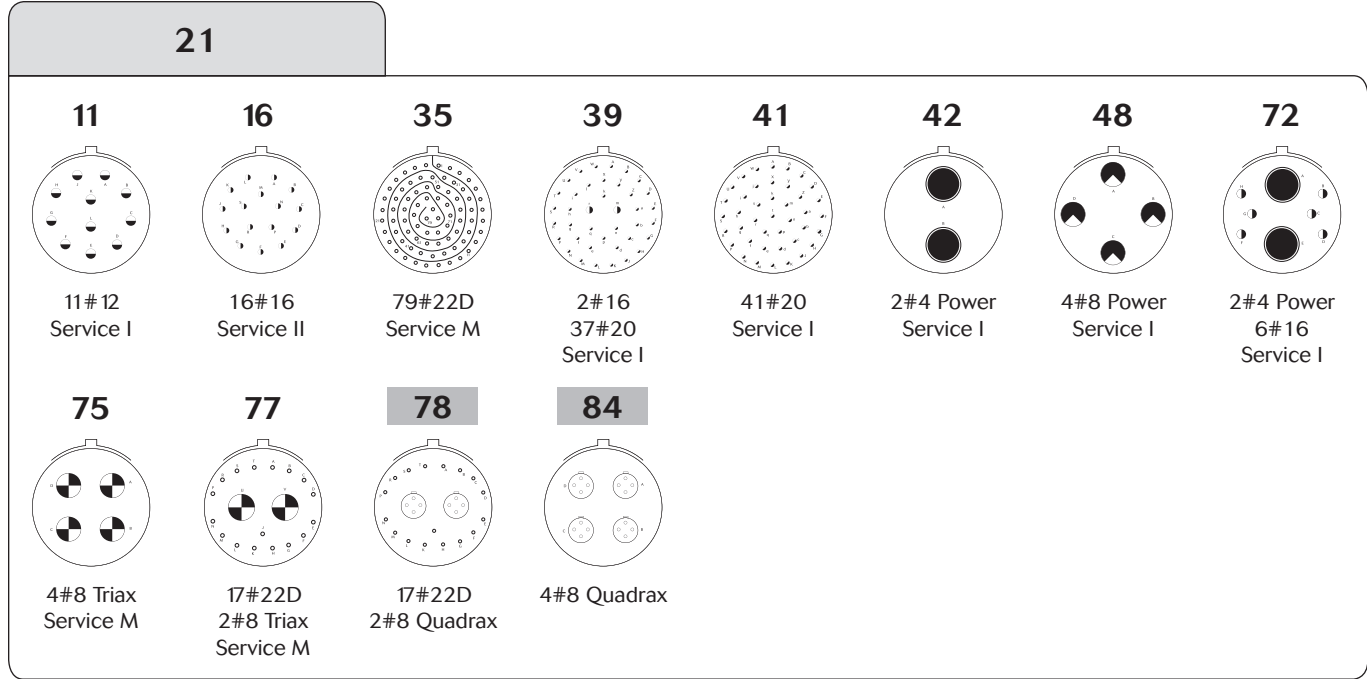
Contact layouts



8LT Series

MIL-DTL-38999 Series I

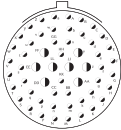
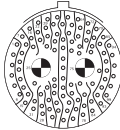
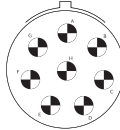
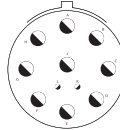
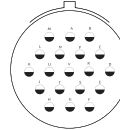
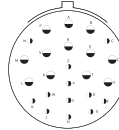
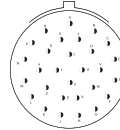
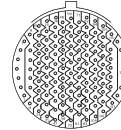
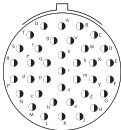
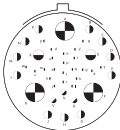
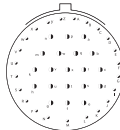

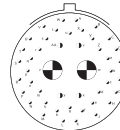
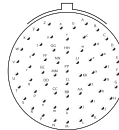
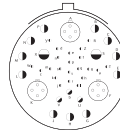
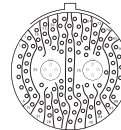

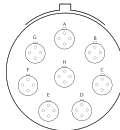
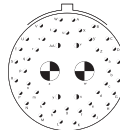
Contact layouts



8LT Series

MIL-DTL-38999 Series I

Contact layouts

25							
<p>04</p>  <p>8#16 48#20 Service I</p>	<p>07</p>  <p>2#8 Triax 97#22D Service M</p>	<p>08*</p>  <p>8#8 Triax Service M</p>	<p>11*</p>  <p>2#20 9#10 Service N</p>	<p>19</p>  <p>19#12 Service I</p>	<p>24</p>  <p>12#16 12#12 Service I</p>	<p>29</p>  <p>29#16 Service I</p>	<p>35</p>  <p>128#22D Service M</p>
<p>37</p>  <p>37#16 Service I</p>	<p>41</p>  <p>22#22D, 3#20 11#16, 2#12 3#8 Triax Service M</p>	<p>43</p>  <p>23#20 20#16 Service I</p>	<p>44</p>  <p>4#4 Power 4#16 Service I</p>	<p>46</p>  <p>40#20, 4#16 2#8 Coax Service I</p>	<p>61</p>  <p>61#20 Service I</p>	<p>81</p>  <p>22#22D 3#20, 11#16 2#12 3#8 Quadrax</p>	<p>82</p>  <p>97#22D 2#8 Quadrax</p>
<p>86</p>  <p>40#20 4#16 2#8 Quadrax</p>	<p>88</p>  <p>8#8 Quadrax</p>	<p>90</p>  <p>40#20, 4#16 2#8 Twinax Service I</p>					

8LT Series

MIL-DTL-38999 Series I

Contact layouts (matrix)

Shell Size	Layout	Service	8LT	8LT2	MIL-DTL-38999 (QPL)		HE 308			Nber of Contacts	#26	#22D	#20	#16	#12	#10	#8	#4 Power
					MS (1)	MS27505	Not Rack		Rack									
09	09-12	R	✓							12	12							
	09-35	M	✓	✓	Q	Q	O	X		6	6							
	09-98	I	✓	✓	Q		O	X		3		3						
11	11-01	II	✓						•	1				1				
	11-02	I	✓		Q				•	2		2						
	11-04	I	✓		Q				•	4		4						
	11-05	I	✓		Q				•	5		5						
	11-22	M	✓							4	4							
	11-26	R	✓							26	26							
	11-35	M	✓	✓	Q	Q	O	X	•	13		13						
	11-80	I	✓							1							1 Triax	
	11-81	-	✓							1							1 Qdx	
	11-98	I	✓	✓	Q	Q	O	X	•	6		6						
	11-99	I	✓	✓	Q				•	7		7						
13	13-03	I	✓	✓						3			3					
	13-04	I	✓		Q		O		•	4			4					
	13-08	I	✓		Q				•	8		8						
	13-26	M	✓							8	6			2				
	13-35	M	✓	✓	Q	Q	O	X	•	22	22							
	13-43	R	✓							43	43							
	13-98	I	✓	✓	Q	Q	O	X	•	10		10						
15	15-05	II	✓		Q		O	X	•	5		5						
	15-15	I	✓						•	15		14	1					
	15-18	I	✓	✓	Q	Q	O		•	18		18						
	15-19	I	✓	✓	Q	Q	O	X	•	19		19						
	15-35	M	✓	✓	Q	Q	O	X	•	37	37							
	15-97	I	✓	✓	Q	Q	O	X	•	12		8	4					
17	17-02	M	✓							39	38					1 Triax		
	17-06	I	✓	✓	Q	Q	O		•	6		6						
	17-08	II	✓		Q		O	X	•	8			8					
	17-20	M	✓							20	16			4				
	17-22	M	✓							4				2		2 Triax		
	17-26	I	✓	✓	Q	Q	O	X	•	26		26						
	17-35	M	✓	✓	Q	Q	O	X	•	55	55							
	17-75	M	✓						•	2						2 Triax		
	17-80	-	✓							4				2		2 Qdx		
	17-81	-	✓							39	38					1 Qdx		
	17-82	-	✓							2						2 Qdx		
17-99	I	✓	✓	Q	Q	O	X	•	23		21	2						
19	19-11	II	✓		Q		O	X	•	11		11						
	19-18	M	✓							18	14					4 Triax		
	19-28	I	✓	✓	Q				•	28		26	2					
	19-32	I	✓	✓	Q	Q	O	X	•	32		32						
	19-35	M	✓	✓	Q	Q	O	X	•	66	66							
	19-84	-	✓							18	14						4 Qdx	

- ✓ Souriau's layout
- Q Qualified layout (QPL) MIL - DTL 38999
- (1) Available MS27466 & MS27467 & MS27468 & MS27656
- O Layout according to UTE C 93-422 norm
- X Qualified Layout HE308 for «Ministère de la Défense» DGA DTAT
- Layout according to C5935X0005 norm
- #8 Qdx: Quadrax

8LT Series

MIL-DTL-38999 Series I

Contact layouts (matrix)

Shell Size	Layout	Service	8LT	8LT2	MIL-DTL-38999 (QPL)		HE 308			Nber of Contacts	#26	#22D	#20	#16	#12	#10	# 8	#4 Power
					MS (1)	MS27505	Not Rack		Rack									
21	21-11	I	✓		Q		O	X	•	11					11			
	21-16	II	✓	✓	Q	Q	O	X	•	16			16					
	21-35	M	✓	✓	Q	Q	O	X	•	79	79							
	21-39	I	✓	✓	Q	Q	O		•	39			37	2				
	21-41	I	✓	✓	Q	Q	O	X	•	41			41					
	21-42	I	✓							2								2
	21-48	I	✓							4							4 Pow	
	21-72	I	✓							8				6				2
	21-75	-	✓			Q			•	4							4 Triax	
	21-77	M	✓							19		17					2 Triax	
	21-78	-	✓							19		17					2 Qdx	
21-84	-	✓							4							4 Qdx		
23	23-21	II	✓		Q		O		•	21			21					
	23-32	I	✓	✓	Q	Q				32			32					
	23-35	M	✓	✓	Q	Q	O	X	•	100	100							
	23-53	I	✓		Q		O	X	•	53			53					
	23-54	M	✓							53		40		9	4			
	23-55	I	✓			Q			•	55			55					
25	25-04	I	✓		Q	Q				56			48	8				
	25-07	M	✓		Q					99		97					2 Triax	
	25-08	-	✓							8							8 Triax	
	25-11	N	✓							11			2			9		
	25-19	I	✓		Q		O	X		19					19			
	25-24	II	✓		Q					24				12	12			
	25-29	I	✓		Q		O	X		29				29				
	25-35	M	✓	✓	Q	Q	O	X		128	128							
	25-37	I	✓							37				37				
	25-41	N	✓							41		22	3	11	2		3 Triax	
	25-43	I	✓			Q				43			23	20				
	25-44	I	✓							8				4				4
	25-46	I	✓			Q				46			40	4			2 Coax	
	25-61	I	✓			Q		O	X	61			61					
	25-81	N	✓							41		22	3	11	2		3 Qdx	
25-82	M	✓							99		97					2 Qdx		
25-86	I	✓							46			40	4			2 Qdx		
25-88	-	✓							8							8 Qdx		
25-90	I	✓							46			40	4			2 Triax		

- ✓ Souriau's layout
- Q Qualified layout (QPL) MIL - DTL 38999
- (1) Available MS27466 & MS27467 & MS27468 & MS27656
- O Layout according to UTE C 93-422 norm
- X Qualified Layout HE308 for «Ministère de la Défense» DGA DTAT
- Layout according to C5935X0005 norm
- #8 Pow: Power; Qdx: Quadrax



8LT Series

8LT Series

Series

■ 8LT Standard Version	16
■ Backshells	24
■ 8LT Rack & Panel	28
■ 8LT Resin Sealed	32



8LT Series

MIL-DTL-38999 Series I



Description

- High contact density
- Bayonet coupling
- Contact protection : 100% Scoop proof
- Shell size from 9 to 25
- Accessories available (protective caps, backshells, etc...)
- RFI - EMI shielding and shell to shell continuity
- Hermetic
- Aluminum alloy, protection by cadmium, nickel, green zinc cobalt or black zinc nickel plating

Applications

- Civil and Military Aerospace
- Marine Equipments
- Communications Equipments
- Medical Instrumentation
- Ballistic Missiles & Weapon Systems
- Armored Carriers & Tanks
- Test Equipments

Technical features

Mechanical

- Shell: aluminum alloy
- Plating:
 - . black zinc nickel (Z)
 - . olive green cadmium (B)
 - . nickel (F)
 - . green zinc cobalt (ZC)
- Insulator: thermoplastic or metallic version available for specification 284 & 384
- Grommet or seal: liquid silicone rubber or fluorocarbene elastomer for specification 022
- Contact: copper alloy
- Plating contact: gold over nickel
- Endurance: 500 mating / unmating operations

- Shock: 300 g during 3 ms and as per MIL S 901 grade A
- Vibration:
 - . Sine 10 to 2000 Hz - 30 g
 - . Random 100 à 300 Hz - 5 g²/Hz
- Contact retention (min force in N):

Contacts size	22	20	16	12	8	4
Min force in N	44	67	111	111	111	200

Electrical

- Test voltage (Vrms)

Service	sea level	at 21000 m
R	400	N/A
M	1 300	800
N	1 000	600
I	1 800	1 000
II	2 300	1 000

- Insulation resistance: $\geq 5\ 000\ M\Omega$ (at 500 Vdc)

- Contact resistance:

Contacts size	26	22	20	16	12	8	4
Resistance m Ω	16	14.6	7.3	3.8	3.5	3	2

- Contact rating:

Contacts size	26	22	20	16	12	8	4
Rating (A)	3	5	7.5	13	23	45	80

- Shell continuity:
 - . black zinc nickel: 2.5 m Ω
 - . olive green plating: 2.5 m Ω
 - . nickel plating: 1 m Ω
 - . green zinc cobalt: 2.5 m Ω

- Shielding: 90 db at 100 MHz, 50 db at 10 000 MHz
- Electrical continuity between contact and shell for specification 284 & 384: 10 m Ω max

Climatic

- Temperature range:
 - . black zinc nickel plating (Z)
 - 65°C +175°C
 - . olive green cadmium plating (B)
 - 65°C +175°C
 - . nickel plating (F)
 - 65°C +200°C
 - . green zinc cobalt plating (ZC)
 - 65°C +200°C
- Sealing: mated connectors
Differential pressure 2 bars:
leakage $\leq 16\ cm^3/h$
- Salt spray as per:
 - . MIL STD 1344 method 1001 :
 - 500 hours (plating B, ZC and Z)
 - 48 hours (plating F)
 - . NFC 93422 :
 - 48 hours (plating F)
- Resistance to fluids
 - . As per MIL DTL 38999, hydraulic fluids, solvents
 - . Specification 022 for fuel immersion (please consult us)

8LT Series

MIL-DTL-38999 Series I

Ordering information

Basic series	8LT	0	-	13	B	35	P	N			L
Shell type											
0: Square flange receptacle											
1: In line receptacle											
2: Short square flange receptacle, not accepting backshell											
3: Square flange receptacle (rear mounting)											
5: Plug with RFI shielding											
7: Jam nut receptacle											
15: Plug with RFI shielding, not accepting backshell											
Type											
-: Connector with standard crimp contacts											
L: Connector with long PC tail (male and female #22D)											
M: Connector with medium PC tail (please see page 38)											
C: Connector with short PC tail (male and female #22D, #20, #16, #12, #8 quadrax)											
T: Connector with male contact size 20 for wire wrap (2 wraps)											
W: Connector with male contact size 22D for wire wrap (3 wraps)											
S: Connector with specific PC Tail (male and female #22D only)											
Q: Connector with quadrax crimp contacts											
P: Connector with solder cup: . Pin: #22D & #16; Socket: #12 . Socket: #22D & #16; Pin: #12 - Please consult us											
Shell size											
09; 11; 13; 15; 17; 19; 21; 23; 25											
Plating											
Z: Black zinc nickel											
F: Nickel											
B: Olive green cadmium											
ZC: Green zinc cobalt											
Contact layout											
See tables pages 8 to 11											
Contact type											
P: Male											
A: Connector supplied less pin contact or with specific contacts (Connector marking : A + orientation)											
S: Female											
B: Connector supplied less socket contact or with specific contacts (Connector marking : B + orientation)											
Orientation ⁽¹⁾											
N, A, B, C, D see table page 48											
Specifications											
None: Supplied with contact											
046: PC Tail contact with tinned plating											
251: Connector provided with power contacts with layout contacts #8											
022: Fuel tank Please consult us											
284: Quadrax grounded PC tail contact, type L, C & S only (100Ω) ⁽²⁾⁽³⁾											
308: Quadrax not grounded PC tail contact, type L, C & S only (100Ω) ⁽²⁾											
620: Quadrax grounded crimp contact, type Q only (100Ω) ⁽²⁾⁽³⁾											
621: Quadrax not grounded crimp contact, type Q only (100Ω) ⁽²⁾											
384: Quadrax grounded crimp contact, type Q only (150Ω) ⁽²⁾⁽³⁾											
408: Quadrax not grounded crimp contact, type Q only (150Ω) ⁽²⁾											
Special custom											
None: Standard plastic cap											
M: Antistatic plastic cap											
L: For P or S contact type only, connector delivered without contacts, connector marking P or S (without L)											

(1) Orientations B & C not developed for shell size number 9.

(2) Type shell 0, 3 and 5 available only.

(3) Excepted mixed layouts with quadrax and signal contacts. Please consult us.

8LT Series

MIL-DTL-38999 Series I

MIL-DTL-38999 connector part numbers

Basic series	MS	27466	T	13	B	35	P			L
Shell type										
27466: Square flange receptacle (front mounting)										
27656: Square flange receptacle (rear mounting)										
27468: Jam nut receptacle										
27467: Plug with RFI shielding										
27505: Square flange receptacle, not accepting backshell										
Class										
E: Without thread for back fitting, not accepting backshell for MS27505 and MS27467 only										
T: With thread for backfitting, supplied without backshell (excepted MS27505)										
Shell size										
09; 11; 13; 15; 17; 19; 21; 23; 25										
Plating										
Z: Black zinc nickel F: Nickel B: Olive green cadmium										
Contact layout										
See tables pages 8 to 11										
Contact type										
P: Male A: Connector supplied less pin contact or with specific contacts (Connector marking : A + orientation)										
S: Female B: Connector supplied less socket contact or with specific contacts (Connector marking : B + orientation)										
Orientation (1)										
None: Normal (N)										
A, B, C, D see table page 48										
Special custom										
None: Standard plastic cap										
M: Antistatic plastic cap										
L: For P or S contact type only, connector delivered without contacts, connector marking P or S (without L)										

HE 308 connector part numbers

Basic series	HE308	00	T	13	35	P	N	7	M	L
Shell type										
00: Square flange receptacle										
07: Jam nut receptacle										
06: Plug with RFI shielding										
11: Jam nut receptacle with PC Tail contacts										
Class										
T: Sealed										
Shell size										
09; 11; 13; 15; 17; 19; 21; 23; 25										
Contact layout										
See tables pages 8 to 11										
Contact type										
P: Male										
S: Female										
Orientation (1)										
N, A, B, C, D see table page 48										
Plating										
6: Nickel										
7: Olive green cadmium										
Contractual specification										
Special custom										
None: Standard plastic cap										
M: Antistatic plastic cap										
Specification										
None: Connector supplied with contact										
L: Connector supplied without contact										

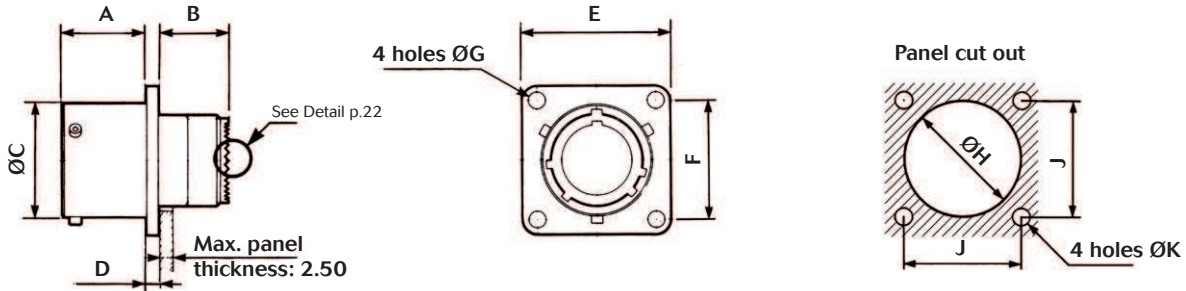
(1) Orientations B & C not developed for shell size number 9.

8LT Series

MIL-DTL-38999 Series I

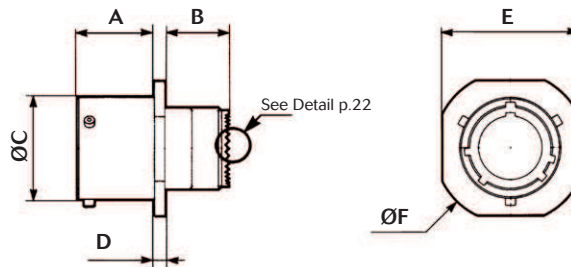
Dimensions

Type 0 - Square flange receptacle



Shell size	A		B		ØC		D		E		F	ØG		ØH Min	J	K ^{±0.15}
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max		Min	Max			
09	15.93	16.05	13.23	13.49	14.40	14.53	2.14	2.54	23.70	24.30	18.26	3.25	3.35	15.70	18.26	3.25
11					17.65	17.78			26.05	26.70	20.62			18.70	20.62	
13					21.40	21.59			28.50	29.05	23.01			21.80	23.01	
15					24.65	24.77			30.85	31.45	24.61			25.00	24.61	
17					27.82	27.94			33.20	33.80	26.97			28.30	26.97	
19					29.24	30.66			36.40	37.00	29.36			31.00	29.36	
21	15.17	15.29			33.70	33.83	2.90	3.30	39.55	40.15	31.75	3.73	3.83	34.20	31.75	3.91
23					36.92	37.00			42.75	43.35	34.93			37.30	34.92	
25					40.06	40.18			46.00	46.50	38.10			40.50	38.10	

Type 1 - Cable connecting receptacle



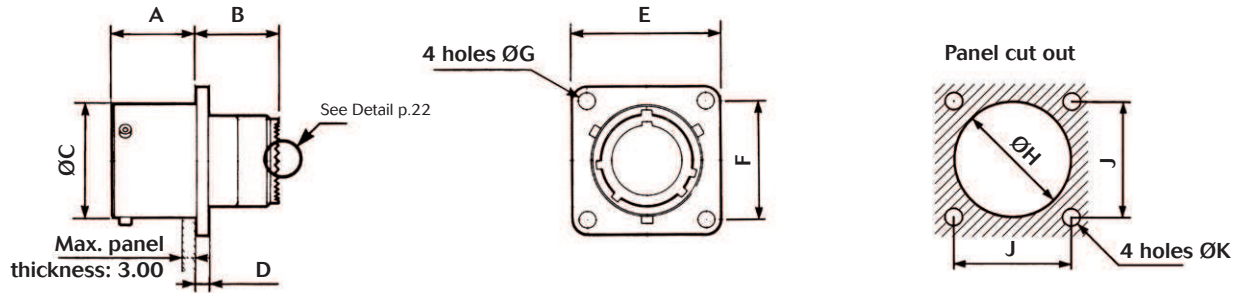
Shell size	A		B		ØC		D		E		ØF	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
9	15.93	16.05	13.23	13.49	14.40	14.53	2.14	2.54	18.35	18.92	21.80	22.35
11					17.65	17.78			21.65	22.22	25.10	25.65
13					21.40	21.59			25.05	25.62	28.50	29.05
15					24.65	24.77			27.25	27.82	30.70	31.25
17					27.82	27.94			30.78	31.35	34.10	34.65
19					29.24	30.66			34.05	34.62	37.50	38.05
21	15.17	15.29			33.70	33.83	2.90	3.30	37.45	38.02	40.90	41.45
23					36.92	37.00			41.45	42.02	44.90	45.45
25					40.06	40.18			45.93	46.50	49.40	49.95

Note: All dimensions are in millimeters (mm)

8LT Series

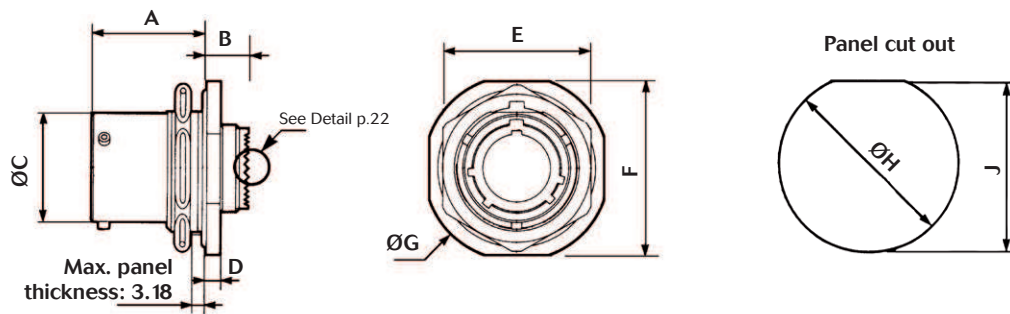
MIL-DTL-38999 Series I

Type 3 - Square flange receptacle (rear mounting)



Shell size	A		B		ØC		D		E		F	ØG		ØH Min	J	K ^{±0.15}
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max		Min	Max			
09	20.71	20.83	10.40	11.90	14.40	14.53	2.14	2.54	23.70	24.30	18.26	3.25	3.35	16.66	18.26	3.25
11					17.65	17.78			26.05	26.70	20.62			20.22	20.62	
13					21.40	21.59			28.50	29.05	23.01			23.42	23.01	
15					24.65	24.77			30.85	31.45	24.61			26.59	24.61	
17					27.82	27.94			33.20	33.8	26.97			30.96	26.97	
19					29.24	30.66			36.40	37.00	29.36			32.94	29.36	
21	19.96	20.08	11.15	12.70	33.70	33.83	2.90	3.30	39.55	40.15	31.75	3.73	3.83	36.12	31.75	3.91
23					36.92	37.00			42.75	43.35	34.93			39.29	34.92	
25					40.06	40.18			46.00	46.50	38.10			42.47	38.10	

Type 7 - Jam nut receptacle Type 11 - HE 308



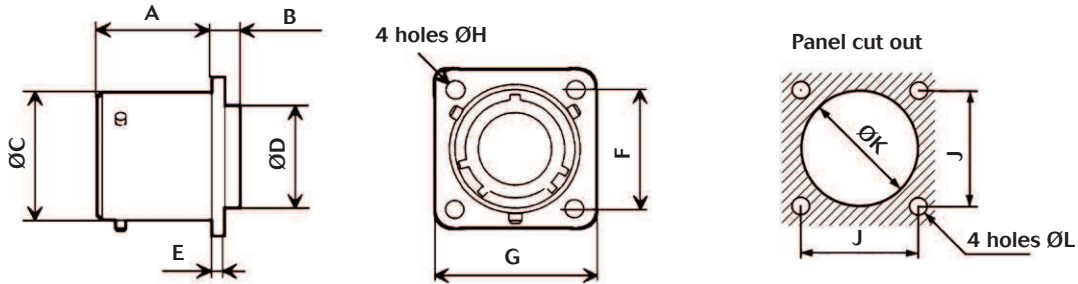
Shell size	F		E		ØC		ØG		A		B		D		ØH	J
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max		
09	26.60	27.35	21.95	22.35	14.40	14.53	29.90	30.58	23.12	23.36	8.18	8.32	2.60	3.00	17.78	17.02
11	31.40	32.10	25.15	25.55	17.65	17.78	34.60	35.30							20.96	19.59
13	34.60	35.31	29.80	30.30	21.40	21.59	37.75	38.50							25.65	24.26
15	37.80	38.49	33.05	33.45	24.65	24.77	41.00	41.65							28.83	27.56
17	40.90	41.63	36.25	36.65	27.82	27.94	44.11	44.85							32.00	30.73
19	45.63	46.37	39.40	39.80	29.24	30.66	48.90	49.60							35.18	33.91
21	48.84	49.58	42.60	43.00	33.70	33.83	52.00	52.75	3.35	3.79	38.35	37.08				
23	52.02	52.76	45.75	46.15	36.92	37.00	55.30	55.94			41.53	40.26				
25	55.19	55.93	50.65	50.95	40.06	40.18	58.40	59.10			44.70	43.45				

Note: All dimensions are in millimeters (mm)

8LT Series

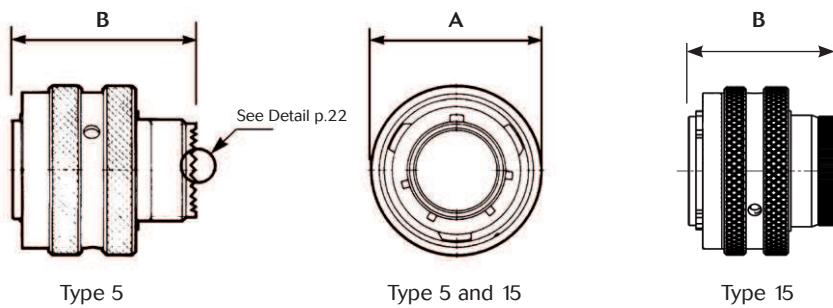
MIL-DTL-38999 Series I

Type 2 - Short square flange receptacle (not accepting backshell)



Shell size	A		B		ØC		ØD		E		F	G		ØH		J	ØK	ØL
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max		Min	Max	Min	Max			
09	20.71	20.83	5.40	5.55	14.40	14.53	9.85	9.95	2.14	2.54	18.26	23.70	24.30	3.25	3.35	18.26	16.66	3.25
11					17.65	17.78	12.80	12.90			20.62	26.05	26.70			20.62	20.22	
13					21.40	21.59	16.00	16.10			23.01	28.50	29.05			23.01	23.42	
15					24.65	24.77	18.95	19.05			24.61	30.85	31.45			24.61	26.59	
17					27.82	27.94	22.10	22.20			26.97	33.20	33.80			26.97	30.96	
19					29.24	30.66	25.10	25.20			29.36	36.40	37.00			29.36	32.94	
21	19.96	20.08	6.15	6.35	33.70	33.83	28.25	28.35	2.90	3.30	31.75	39.55	40.15	3.73	3.83	31.75	36.12	3.91
23					36.92	37.00	31.40	31.50			34.93	42.75	43.35			34.92	39.29	
25					40.06	40.18	34.60	34.70			38.10	46.00	46.50			38.10	42.47	

Type 5 - Plug with RFI shielding Type 15 - Plug with RFI shielding (not accepting backshell)

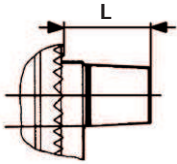


Shell size		09	11	13	15	17	19	21	23	25
A	Max	21.80	25.00	29.30	32.50	35.70	38.50	41.70	43.85	48.00
	Min	31.28	31.28	31.28	31.28	31.28	31.28	31.28	31.28	31.28
B	Max	31.35	31.35	31.35	31.35	31.35	31.35	31.35	31.35	31.35

8LT Series

MIL-DTL-38999 Series I

Detail

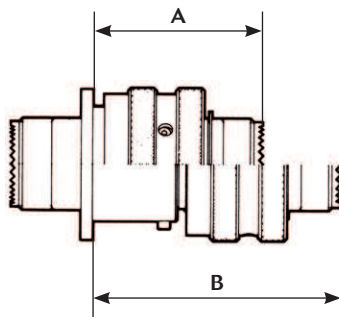


Sealing bushing
used for triaxial
#8 protude

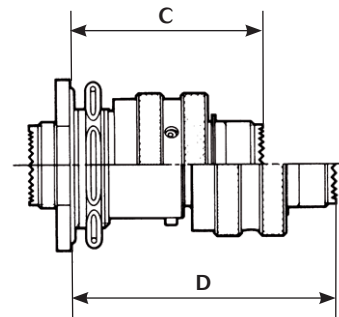
Shell Type	Type 0	Type 1	Type 3	Type 5	Type 7
L max	13.39	13.58	13.58	13.54	13.58

Mated connectors dimensions

Square flange receptacle (type 0)
with plug (type 5)



Jam nut receptacle (type 7)
with plug (type 5)



Shell Size	A Max	B Max	C Max	D Max
09	33.30	47.40	40.60	54.70
11				
13				
15				
17				
19	32.50	46.70	40.60	54.70
21				
23				
25				

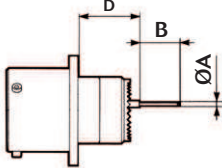
Note: All dimensions are in millimeters (mm)

8LT Series

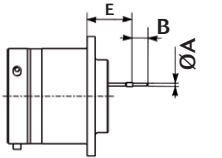
MIL-DTL-38999 Series I

Receptacle with PC Tail contact

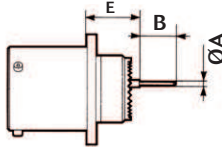
Type 0
Square flange receptacle



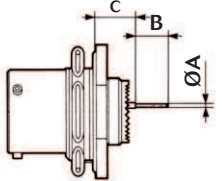
Type 2
Short square flange receptacle



Type 3
Square flange receptacle (rear mounting)



Type 7
Jam nut receptacle

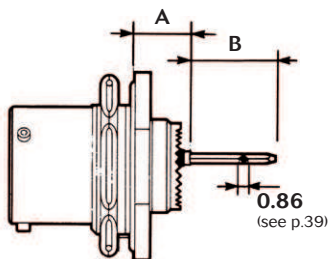


(1) M: Male Contact
F: Female Contact

(2) C: Short PC tail
M: Medium PC tail
L: Long PC tail
S: Specific PC tail

Shell Size				09	11	13	15	17	19	21	23	25	
	Contact size	Contact type (1)	PC tail contact (2)										
ØA	#22D	M & F	C & L	0.70									
			S	0.50									
	#20	M & F	C	0.70									
	#16	M & F	C	1.15									
B	#22D	M & F	C	4 ⁰ _{-0.20}									
			S	5 ^{±0.1}									
			L	8.5 ⁰ _{-0.20}									
	#20	M & F	C	6 ^{±0.1}									
#16	M & F	C	5 ^{±0.1}										
C type 7	8LT #22D	M	C & L	Max	10.06							15.25	
			Min	9.07							14.08		
		M	Max	10.21							15.25		
		Min	9.23							14.08			
	F	C & L	Max	10.06							15.25		
		Min	8.74							14.08			
	8LT7S HE308 #22D	M	S	Max	10.23							15.25	
		Min	9.24							14.08			
8LT/HE308 #20 & #16	M & F	C	Max	10.23							15.25		
			Min	9.24							14.08		
D type 0	#22D	M	C & L	Max	15.08							15.25	
			Min	13.91							14.08		
		M	Max	15.22							15.25		
		Min	14.05							14.08			
	F	C & L	Max	15.08							15.25		
		Min	13.58							14.08			
	M	S	Max	15.25	-							15.25	
			Min	14.08	-							14.08	
	F	S	Max	15.25	-							15.25	
			Min	13.75	-							13.75	
#20 & #16	M & F	C	Max	15.25							15.25		
			Min	14.08							14.08		
E type 2 type 3	#22D	M	C & L	Max	12.47				13.22				
			Min	11.60				12.35					
		F	C & L	Max	12.47				13.22				
			Min	11.27				12.02					
	M	S	Max	12.64	-				12.64	13.39			
			Min	11.77	-				11.77	12.52			
	F	S	Max	12.64	-				12.64	13.39			
			Min	11.44	-				11.44	12.19			
#20 & #16	M & F	C	Max	12.64				13.39					
			Min	11.77				12.52					

Type 7 receptacle with wire wrap contacts



Contact size	Contact type	A	B Max
#22D	W (3 wraps)	9.07 / 10.06	16.00
#20	T (2 wraps)	9.7 / 10.06	12.60

Note: All dimensions are in millimeters (mm)

8LT Series

MIL-DTL-38999 Series I

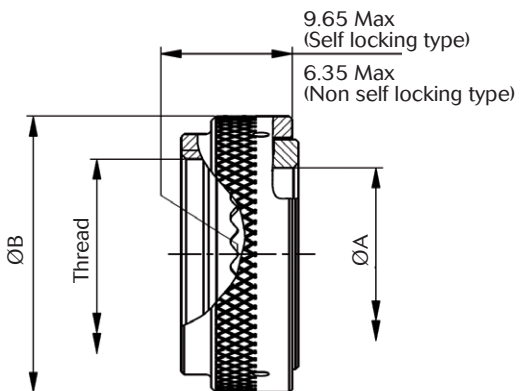
Aluminum backshells

Ordering information

Basic Series	8T	AB	05	A	16	W	S	01	-																				
Accessories type																													
Type:																													
01: Backnut	04: Crimp ring																												
02: Cable clamp	05: Band lock																												
03: Shrink boot	06: Double cone																												
Angle:																													
A: Straight																													
B: 90° (Type 02 only)																													
Size code:	<table border="1"> <tr> <td>Size code</td> <td>08</td><td>10</td><td>12</td><td>14</td><td>16</td><td>18</td><td>20</td><td>22</td><td>24</td> </tr> <tr> <td>= Shell size 8LT</td> <td>09</td><td>11</td><td>13</td><td>15</td><td>17</td><td>19</td><td>21</td><td>23</td><td>25</td> </tr> </table>									Size code	08	10	12	14	16	18	20	22	24	= Shell size 8LT	09	11	13	15	17	19	21	23	25
Size code	08	10	12	14	16	18	20	22	24																				
= Shell size 8LT	09	11	13	15	17	19	21	23	25																				
Finish:																													
Z: Black zinc nickel																													
W: Olive green cadmium																													
F: Nickel																													
A: Black anodized																													
Self locking option:																													
None																													
S: Self locking (available for Types 01 & 02 - mandatory for Type 05)																													
Cable entry (Type 05 only):																													
01, 02 (02 mandatory for shell size 08 & 10)																													
Drain hole option:																													
None																													
D: Drain hole (Type 03 only)																													

Dimensions

Aluminum backshell Type 01 - Backnut



Shell size	ØA Min	ØB Max
09	6.7	17.9
11	9.95	20.9
13	12.85	24.3
15	17.0	27.9
17	19.25	31.3
19	21.7	35.3
21	24.7	38.1
23	27.8	41.5
25	32.0	44.5

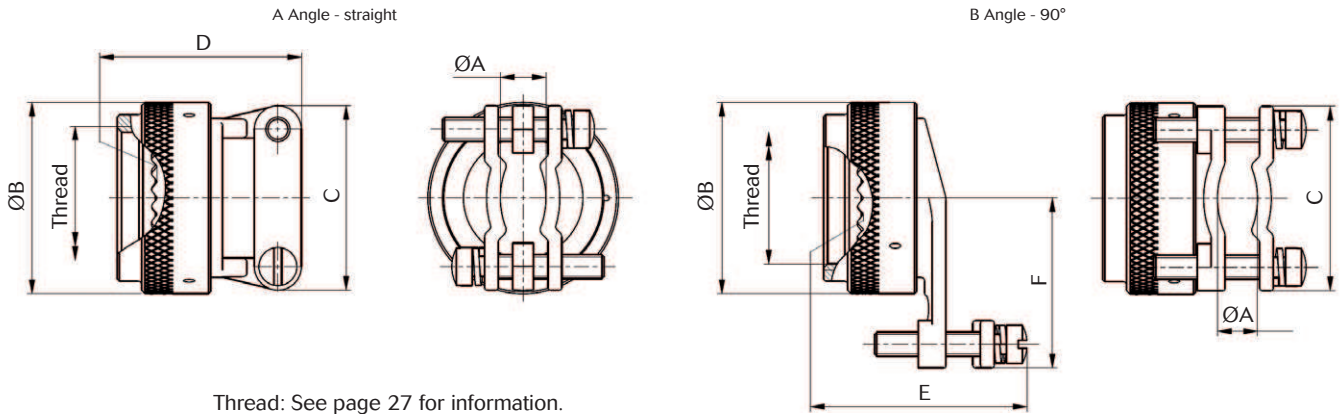
Thread: See page 27 for information.

Note: All dimensions are in millimeters (mm)

8LT Series

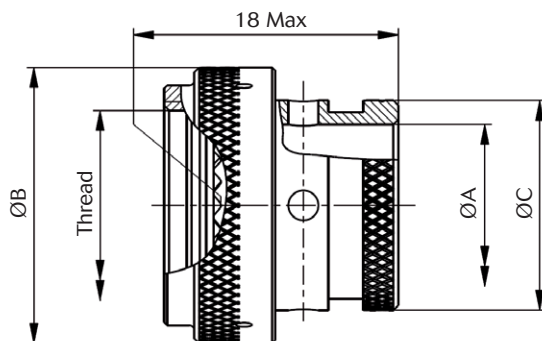
MIL-DTL-38999 Series I

Aluminum backshell Type 02 - Cable clamp



Shell size	ØA		ØB Max	C Max	D Max	E Max	F Max
	Min	Max					
09	2.49	5.94	17.9	21.5	23.1	29.5	20
11	3.89	5.94	20.9	21.5	23.1	29.5	21.5
13	4.83	8.33	24.3	24.5	25.6	31.5	23.5
15	6.60	11.61	27.9	27.5	26.9	35.8	25.5
17	7.19	15.6	31.3	31.5	29.4	40.1	27.5
19	8.26	16.1	35.3	35.5	35.8	40.6	30.5
21	8.71	17.73	38.1	37	38.3	42.7	31.5
23	9.68	20.9	41.5	40.5	42.1	46.2	34.5
25	10.62	21.67	44.5	45	44.7	49	36.5

Aluminum backshell Type 03 - Shrink boot



Shell size	ØA Min	ØB Max	C Max
09	6.7	19.0	11.3
11	9.95	21.5	14.9
13	12.85	25.3	17.8
15	16.05	29.1	21.27
17	19.2	31.7	24.3
19	21.5	35.5	26.4
21	24.7	39.3	30.8
23	27.8	41.8	34.1
25	31	46.9	36.6

Thread: See page 27 for information.