

GJB599 III series (MIL-DTL-38999 IIIseries) connectors

- Compliance with MIL-DTL-38999M standard
- Fast connection with three heads, with anti-loosening mechanism
- Small size, light weight , high contact density
- Electromagnetic shielding function
- Crimp contacts removable , anti-oblique function
- High-intensity vibration characteristics at high temperature, suitable for use in bad wind wet situation
- 16# contact hole position can assemble fiber contact
- 12#, 10#, 8# contact hole position can assemble coaxial, shield contact



Performance specification

Material: Shell: aluminum alloy、stainless steel、titanium alloy

Insulation: thermosetting plastic or thermoplastic

Grommet and seal: silicon rubber

Plating: W: olive drab cadmium over electroless nickel base

K: Stainless steel shell, passivated

F: electroless nickel finish

FT: Aluminum Alloy satin cadmium plating

TA: titanium alloy

Contacts : copper alloy gold plating, crimp、solder and PCB

Durability: 500 cycles

Vibration:

Sinusoidal :60 g, with temperature cycle and analog accessories (36 h)

Random vibration:Under high temperature, frequency 100~1000 Hz, power spectral density 1 g²/Hz, corresponding to root mean square value 41.7 g

Under ambient temperature: frequency 100~1000 Hz power spectral density 5 g²/Hz, corresponding root mean square value 49.5g

Electrical performance:

Withstand voltage: V

Working level*	M	N	I	II
Sea level	1300	1000	1800	2300
21000m	800	600	1000	1000

Note: different insert arrangement has different working grade, see insert arrangement upper right corner mark for details.

Contact resistance and current rating:

Contact specification	Working diameter mm	Contact resistance mΩ	Current rating A
22D	Φ0.76	≤12	5
20#	Φ1.00	≤5	7.5
16#	Φ1.60	≤2.5	13
12#	Φ2.40	≤1.5	23
10#	Φ3.15	≤1.0	40

Insulator resistance: $\geq 5000\text{M}\Omega$ (500VDC)

Shell conductivity: W: $2.5\text{m}\Omega$ F, FT: $1.0\text{m}\Omega$ K, TA: $10\text{m}\Omega$

Electromagnetic interference shielding: 100MHz ~ 1GHz, minimum attenuation is 85dB (F, W)

1GHz ~ 10GHz, minimum attenuation is 65dB (F) , 50dB (W)

8# Dual coaxial contact: 0~20MHz rated voltage :maximum is 500VAC, 21000m is 125VAC。

Voltage drop: internal and interediate contacts1A 下 $\leq 55\text{m}$, external contacts $\leq 75\text{mV}$ under 12A

□ Environmental performance:

Temperature range: W: $-65^\circ\text{C} \sim +175^\circ\text{C}$ F, K, FT, TA: $-65^\circ\text{C} \sim +200^\circ\text{C}$

Salt spray resistance: W: 500h K, TA: 1000h F: 48h/96h FT: 96h

Sealing: matching connector meet MIL-DTL-38999M requirements for low pressure impregnation

Damp heat: As MIL-DTL-38999M: 24 hours 10 times cycle

Liquid resistance: resistance to multiple fuels. Coolant, solvents.

How to order

	R255/	20	W	B	35	P	N
Basic series							
Type of connector							
20 = Square flange receptacle							
24 = Jam nut receptacle							
26 = Shielding plug							
Finish							
W = Olive green cadmium plating							
F = Electroless nickel plating							
T = Marine Bronze (copper aluminium alloy)							
K = Stainless steel passivated							
L = Black anodized							
J = Composite material + W							
M = Composite material + F							
Shell size							
09 (A), 11 (B), 13 (C), 15 (D), 17 (E), 19 (F), 21 (G), 23 (H), 25 (J)							
Contact layout (See below)							
Type of contact							
P = Crimp pin							
S = Crimp socket							
PL = Long PCB pin							
PC = Short PCB pin							
SL = Long PCB socket							
SC = Short PCB socket							
Orientation							
N = Normal							
A, B, C, D = Alternative							



Crimp contacts

Contact specification	Work diameter	Pin color	Socket color	Inside diameter of crimp barrel mm	outer diameter of crimp barrel mm	Conductor sectionmm ²	Adapted USA cable AWG	Adapted cable insulated outer diameter mm	Unloading tool code	Crimp tool
22D	Φ0.76	orange-blue-black	orange-yellow-gray	0.85	1.20	0.08 0.125 0.2 0.3	28 26 24 22	0.76~1.37	M81969/ 14-01	YJQ-02
20#	Φ1.00	orange-blue-orange	orange-green-brown	1.17	1.78	0.2 0.3 0.5	24 22 20	1.02~2.11	M81969/ 14-10	YJQ-02 XCXY-01
16#	Φ1.60	orange-blue-yellow	orange-green-red	1.68	2.62	0.5 0.8 1.0 1.2	20 18 16	1.65~2.77	M81969/ 14-03	XCXY-01
12#	Φ2.40	orange-blue-green	orange-green-orange	2.49	3.84	2.0 3.0	14 12	2.46~3.61	M81969/ 14-04	XCXY-01
10#	Φ3.15	Green-red-gray	green-orange-purple	3.40	4.65	4.8	10	3.42~4.12	M81969/ 14-05	XCXY-01 YTQ
8#	Φ3.60	—	—	4.55	6.4	8.37	8	6.4~6.9	M81969/ 14-12	YTQ

Solder contacts

Solder contact specification	solder cup diameter	(AWG)
22D	Φ0.9	22
20#	Φ1.1	20
16#	Φ1.9	16
12#	Φ2.9	12
10#	Φ3.6	10
8#	Φ4.8	8

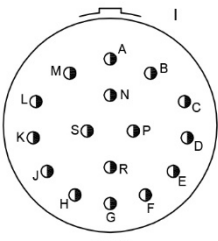
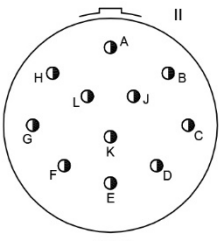
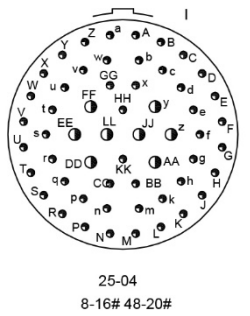
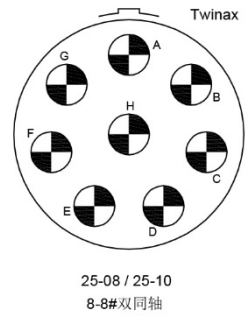
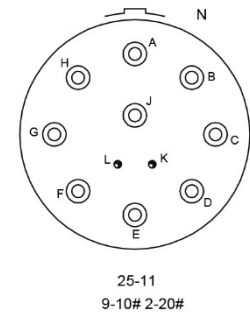
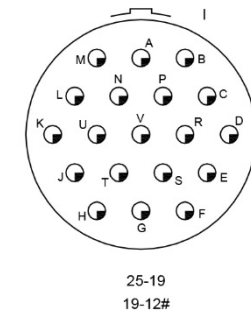
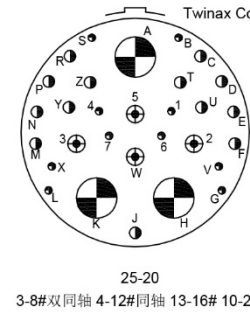
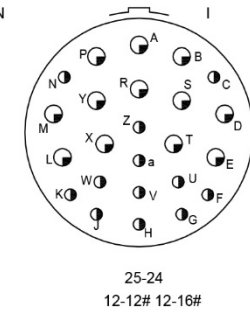
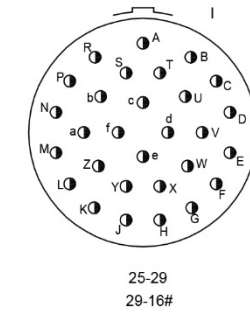
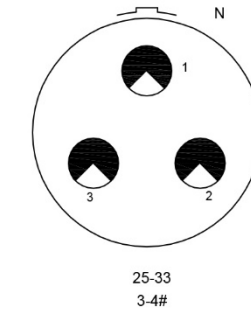
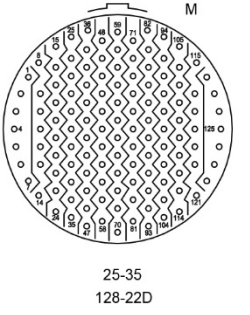
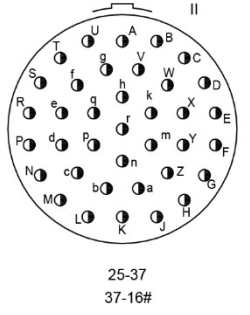
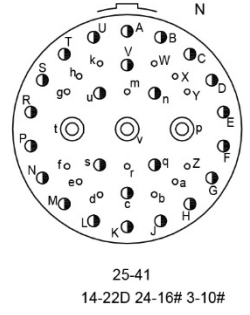
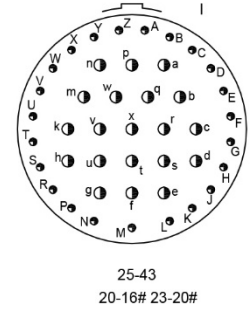
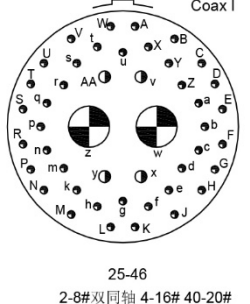
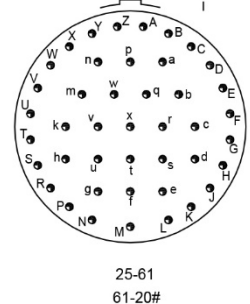
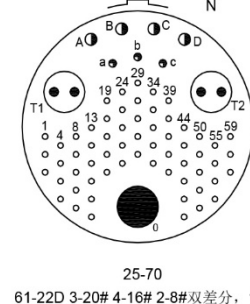
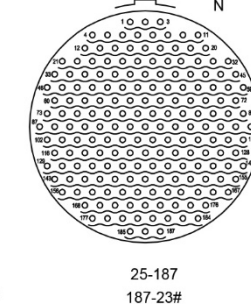


Insert arrangements

09 (A)	 09-03 3-20#	 09-02 2-20#	 09-07 7-22D	 09-09 9-23#/22D	 11-02 2-16#	 11-04 4-20#	 11-05 5-20#	<td>11-23 19-23#/22D</td> <td><td>11-98 6-20#</td><td> 13-02 2-12#</td><td> 13-03 3-16#</td><td> 13-04 4-16#</td><td> 13-05 2-16# 3-20#</td><td> 13-08 8-20#</td><td></td></td>	11-23 19-23#/22D	<td>11-98 6-20#</td> <td> 13-02 2-12#</td> <td> 13-03 3-16#</td> <td> 13-04 4-16#</td> <td> 13-05 2-16# 3-20#</td> <td> 13-08 8-20#</td> <td></td>	11-98 6-20#	 13-02 2-12#	 13-03 3-16#	 13-04 4-16#	 13-05 2-16# 3-20#	 13-08 8-20#	
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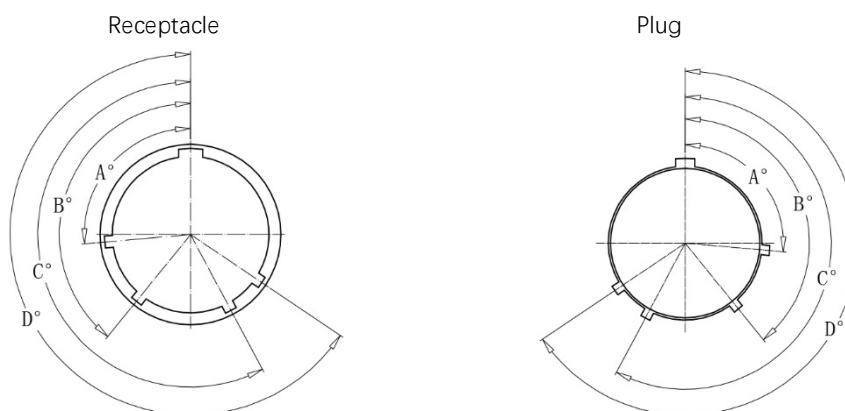


19 (F)	 19-32 32-20#	 19-35 66-22D	 19-45 67-22D	 19-53 53-22D	 19-96 9-12#
21 (G)	 21-11 11-12#	 21-16 16-16#	 21-24 24-20#	 21-25 25-20#	 21-27 27-20#
	 21-29 4-12# 4-16# 19-20#	 21-35 79-22D	 21-39 2-16# 37-20#	 21-41 41-20#	 21-48 4-8#
	 21-75 4-8#双同轴	 21-79 2-8#双同轴 17-22D			
23 (H)	 23-21 21-16#	 23-32 32-20#	 23-34 34-20#	 23-35 100-22D	
	 23-36 36-20#	 23-53 53-20#	 23-54 4-12# 9-16# 40-22D	 23-55 55-20#	

23 (H)	 I 23-97 16-16#  II 23-99 11-16#
25 (J)	 I 25-04 8-16# 48-20#  Twinax 25-08 / 25-10 8-8# 双同轴  N 25-11 9-10# 2-20#  I 25-19 19-12#
	 Twinax Coax N 25-20 3-8# 双同轴 4-12# 同轴 13-16# 10-20#  I 25-24 12-12# 12-16#  I 25-29 29-16#  N 25-33 3-4#
	 M 25-35 128-22D  II 25-37 37-16#  N 25-41 14-22D 24-16# 3-10#  I 25-43 20-16# 23-20#
	 Coax I 25-46 2-8# 双同轴 4-16# 40-20#  I 25-61 61-20#  N 25-70 61-22D 3-20# 4-16# 2-8# 双差分, 1-8#  N 25-187 187-23#



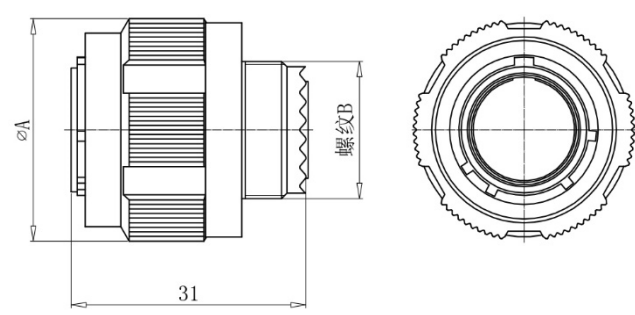
Key position



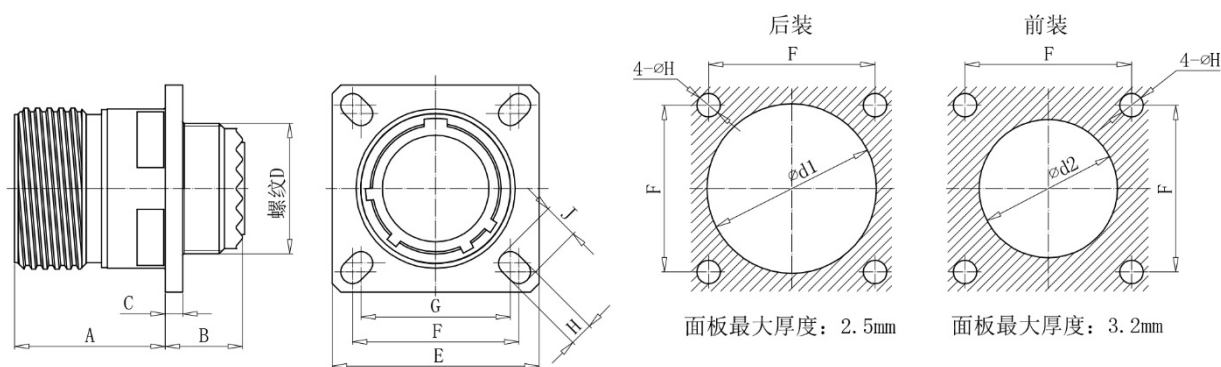
Shell no	MS shell no	Angle	N	A	B	C	D	E
9	A	A°	105	102	80	35	64	91
		B°	140	132	118	140	155	131
		C°	215	248	230	205	234	197
		D°	265	320	312	275	304	240
11	B	A°	95	113	90	53	119	51
13	C	B°	141	156	145	156	146	141
15	D	C°	208	182	195	220	176	184
		D°	236	292	252	255	298	242
17	E	A°	80	135	49	66	62	79
19	F	B°	142	170	169	140	145	153
21	G	C°	196	200	200	200	180	197
23	H	D°	293	310	244	257	280	272
25	J							

Overall dimension

R255/26 plug

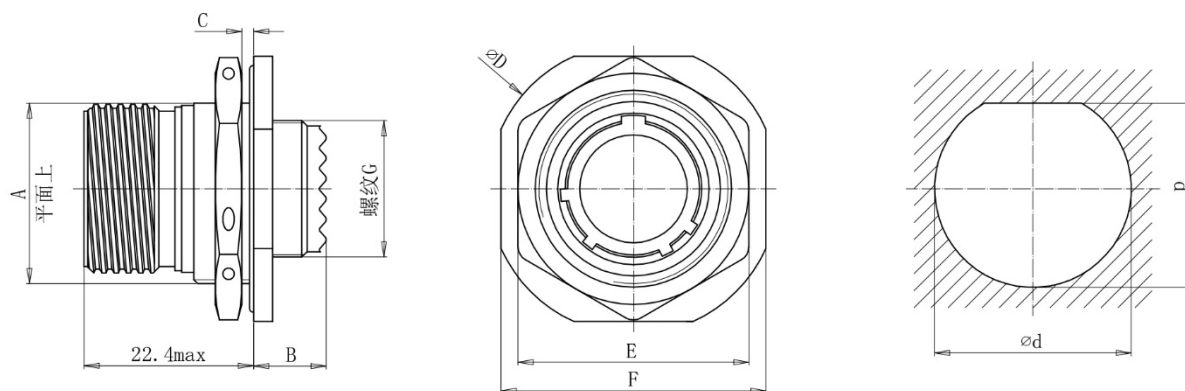
	Shell no	MS shell no	A	Screw thread B
	09	A	21.5	M12×1.0-6g
	11	B	25.0	M15×1.0-6g
	13	C	29.2	M18×1.0-6g
	15	D	32.4	M22×1.0-6g
	17	E	35.6	M25×1.0-6g
	19	F	38.5	M28×1.0-6g
	21	G	41.7	M31×1.0-6g
	23	H	44.9	M34×1.0-6g
	25	J	48.0	M37×1.0-6g

R255/20 flange receptacle



Shell no	MS Shell no	A max	B max	C max	D screw thread	E	F	G	H	J	d1 min	d2 min
9	A	20.9	10.8	2.5	M12×1.0-6g	23.8	18.26	15.09	3.25	5.49	16.66	13.11
11	B	20.9	10.8	2.5	M15×1.0-6g	26.2	20.62	18.26	3.25	4.93	20.22	15.88
13	C	20.9	10.8	2.5	M18×1.0-6g	28.6	23.01	20.62	3.25	4.93	23.42	19.05
15	D	20.9	10.8	2.5	M22×1.0-6g	31.0	24.61	23.01	3.25	4.39	26.59	23.01
17	E	20.9	10.8	2.5	M25×1.0-6g	33.3	26.97	24.61	3.25	4.93	30.96	25.81
19	F	20.9	10.8	2.5	M28×1.0-6g	36.5	29.36	26.97	3.25	4.93	32.94	28.98
21	G	20.1	11.5	3.2	M31×1.0-6g	39.7	31.75	29.36	3.25	4.93	36.12	32.16
23	H	20.1	11.5	3.2	M34×1.0-6g	42.9	34.93	31.75	3.91	6.15	39.29	34.93
25	J	20.1	11.5	3.2	M37×1.0-6g	46.0	38.10	34.93	3.91	6.15	42.47	37.69

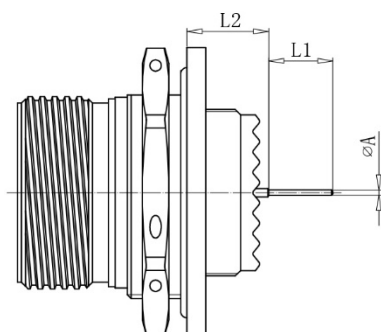
R255/24 Jam nut receptacle



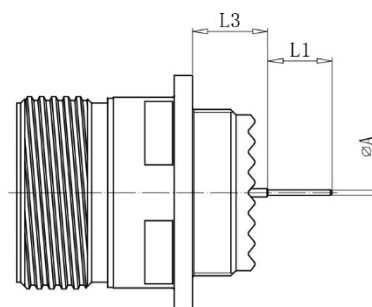
Shell no	MS Shell no	A	B max	C max	D max	E	F	G screw thread	d	P
9	A	16.5	9.9	3.2	30.5	22.5	27.1	M12×1.0-6g	17.70	17.00
11	B	19.2	9.9	3.2	35.2	25.7	32.1	M15×1.0-6g	20.88	19.53
13	C	23.8	9.9	3.2	38.4	30.5	35.0	M18×1.0-6g	25.58	24.26
15	D	26.9	9.9	3.2	41.6	33.6	38.3	M22×1.0-6g	28.80	27.53
17	E	30.3	9.9	3.2	44.8	36.8	41.8	M25×1.0-6g	32.01	30.73
19	F	33.4	9.9	3.2	49.3	40.0	46.4	M28×1.0-6g	35.15	33.86
21	G	36.5	9.9	3.2	52.7	43.2	49.6	M31×1.0-6g	38.28	37.06
23	H	39.7	9.9	3.2	55.9	46.3	52.8	M34×1.0-6g	41.53	40.26
25	J	42.8	9.9	3.2	59.0	51.0	55.8	M37×1.0-6g	44.68	43.41

GJB599 III series receptacle with PCB

R255/24receptacle



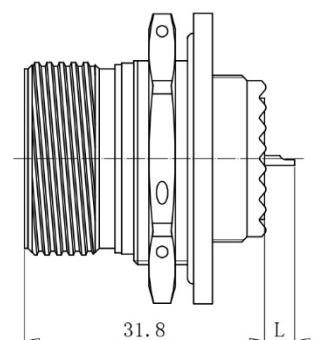
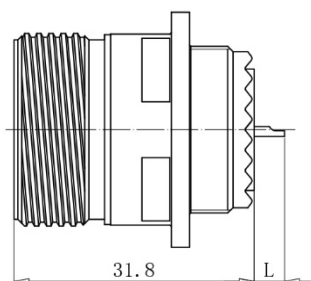
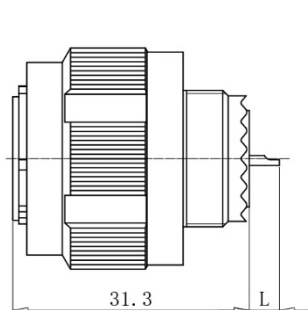
R255/20 receptacle



PCB contact specification		L1	A
22D	Long PCB contact	8.5	0.7
	Short PCB contact	4.0	
20#	Long PCB contact	8.5	0.7
	Short PCB contact	5.1	
16#	Long PCB contact	8.5	1.15
	Short PCB contact	5.1	

Dimension for mounting different specification contacts		Shell no 09-11	Shell no 13 15 17 19 21 23 25
L2	22D pin	10.52~11.46	10.34~11.28
	22D socket	10.19~11.46	10.01~11.28
	16# or 20# pin socket	10.69~11.63	10.51~11.45
L3	22D pin	9.48~10.58	9.48~10.58
	22D socket	9.15~10.58	9.15~10.58
	16# or 20# pin socket	9.65~10.75	9.65~10.75

GJB599 III series solder connector



Solder contact specification	22D	20#	16#	12#	10#	8#
L	4	4	4	4	6	6

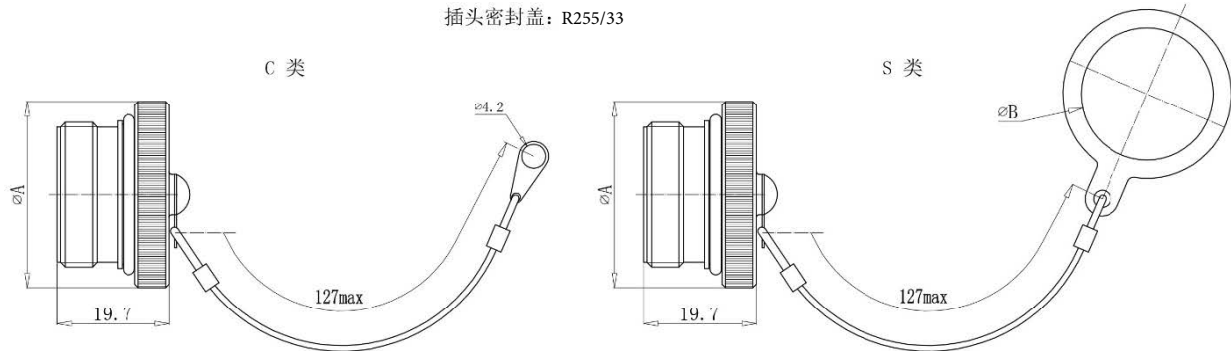
Dust cap

R255/	32	F	09	N
Basic series				
32 = Dust cap of plug				
33 = Dust cap of receptacle				
Finish				
W = Olive green cadmium plating				
F = Electroless nickel plating				
J = Olive green cadmium plating (composite material)				
M = Electroless nickel plating (composite material)				
Shell size				
09, 11, 13, 15, 17, 19, 21, 23, 25				
Chain type				
N = Stainless steel rope with ring				
R = Stainless steel rope with hole				

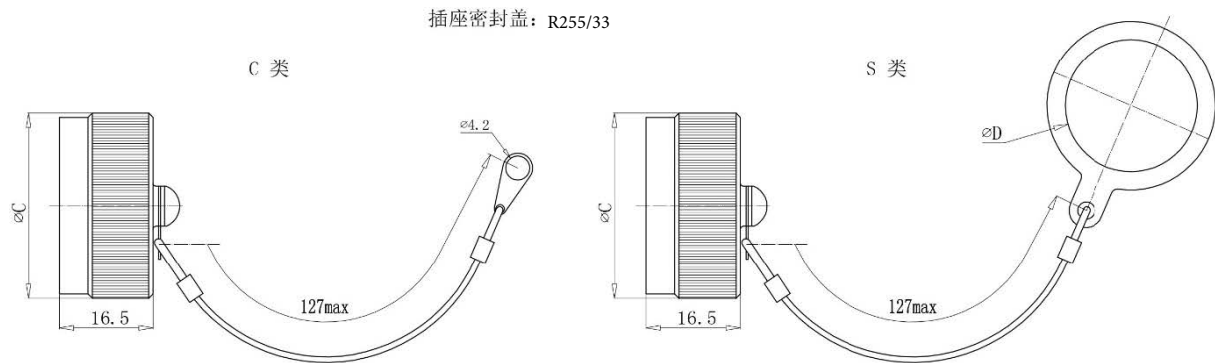
Note: Dust cap should be ordered separately, not supplied with connector, can be customized according to customer's request

Overall dimension

插头密封盖: R255/33



插座密封盖: R255/33



Shell no	09	11	13	15	17	19	21	23	25
A	22.5	26.5	29.5	32.5	36	38.4	41.7	44.4	48.3
B min	12.92	17.78	19.27	22.6	25.62	28.95	31.97	34.03	38.32
C	22.5	26.5	29.5	32.5	36	38.4	41.7	44.4	48.3
D min	17.78	21.33	25.62	28.95	31.97	35.3	38.32	41.65	44.45

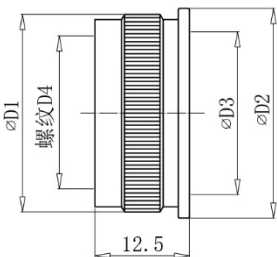


How to order

	L3906/	38	-15	N	09	A
Basic series						
Type						
14 = Back nut						
16 = 90° elbow cable clamp						
18 = Straight cable clamp with shielding						
20 = Shielding back shell						
38 = Straight cable clamp						
39 = 90° elbow cable clamp with shielding						
69 = Heat shrinkable sleeve						
01 = Earthing and impaction						
06 = Spring thread-guard						
Shell size						
09, 11, 13, 15, 17, 19, 21, 23, 25						
Finish						
W = Olive green cadmium plating						
N = Electroless nickel plating						
S = Stainless steel passivated						
A = Black anodized						
J = Olive green cadmium plating (composite material)						
Outlet diameter						
Omit = Standard size						
01 = 1.57 ~ 3.18 mm, 02 = 3.18 ~ 6.35 mm						
03 = 6.35 ~ 9.53 mm, 04 = 9.53 ~ 12.70 mm						
05 = 12.70 ~ 15.88 mm, 06 = 15.88 ~ 19.05 mm						
07 = 19.05 ~ 22.23 mm, 08 = 22.23 ~ 25.40 mm						
Length						
Omit = Standard length (64.4 mm)						
A = 89.8 mm						
B = 115.2 mm						

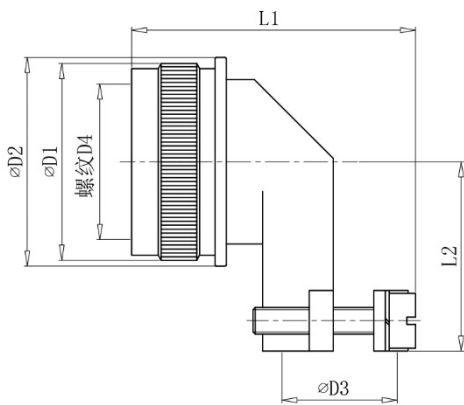
Overall dimension

L3906/14-Tail nut

	Shell no	D1	D2	D3	Screw thread D4
	09	16.5	17.6	7.9	M12×1.0
	11	19.5	20.6	10.8	M15×1.0
	13	22.5	23.6	13.6	M18×1.0
	15	26.5	27.6	16.9	M22×1.0
	17	29.5	30.3	20.1	M25×1.0
	19	32.5	33.3	22.1	M28×1.0
	21	36.0	36.8	25.2	M31×1.0
	23	38.5	39.3	28.3	M34×1.0
	25	41.7	42.3	31.6	M37×1.0

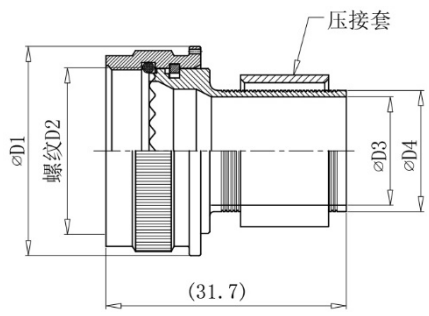
Anti-rotation accessories, tight hoop sealing body, to ensure the environmental performance of connectors, can not hold cables, used in general environmental conditions.

L3906/16 - 90° cable clamp (Clamping cable not shielded)

	Shell no	D1	D2	D3	Screw thread D4	L1 max	L2 max
	09	16.5	17.6	3.2~6.4	M12×1.0	29.0	25.0
	11	19.5	20.6	4.0~9.5	M15×1.0	32.0	26.0
	13	22.5	23.6	4.8~11.1	M18×1.0	33.5	27.5
	15	26.5	27.6	5.5~14.3	M22×1.0	36.5	31.0
	17	29.5	30.3	6.4~15.9	M25×1.0	38.5	32.5
	19	32.5	33.3	7.9~19.1	M28×1.0	41.5	34.0
	21	36.0	36.8	9.5~22.2	M31×1.0	44.5	34.5
	23	38.5	39.3	10.3~23.8	M34×1.0	46.0	36.5
	25	41.7	42.3	14.3~25.4	M37×1.0	48.0	43.5

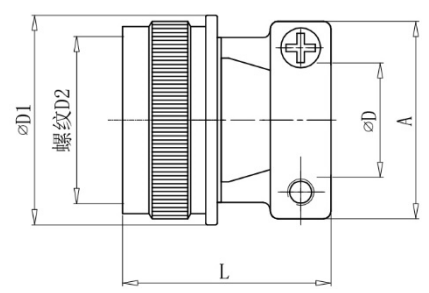
Anti-rotation, cable 90° clamping cable accessories, can tighten hoop sealing body 90° clamping cable function, to ensure the environmental performance of connectors, used in cable tension occasions.

L3906/20-Shielding back shell(shielding non-clamping cable accessories)

	Shell no	D1	Screw thread D2	D3	D4
	09	17.6	M12×1.0	6.55	8.81
	11	20.6	M15×1.0	8.63	12.65
	13	23.6	M18×1.0	10.90	12.95
	15	27.6	M22×1.0	14.10	16.00
	17	30.3	M25×1.0	17.25	19.30
	19	33.3	M28×1.0	20.40	22.61
	21	36.8	M31×1.0	23.60	25.65
	23	39.3	M34×1.0	26.40	28.70
	25	42.3	M37×1.0	28.40	30.53

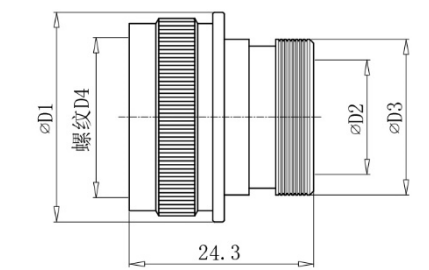
Anti-rotation, clamping cable accessories, can tighten hoop sealing body, clamping cable function, to ensure the environmental performance of connectors, used in cable tension occasions.

L3906/38 - Straight cable clamp(clamping cable not shielded)

	Shell no	D1	Screw thread D2	D	A	L
	09	17.6	M12×1.0	2.49~5.94	20	23.6
	11	20.6	M15×1.0	3.87~5.94	22	24.6
	13	23.6	M18×1.0	4.83~8.33	24.5	26.7
	15	27.6	M22×1.0	6.60~11.61	26	27.7
	17	30.3	M25×1.0	7.19~15.60	30.5	27.7
	19	33.3	M28×1.0	8.26~16.10	35	29
	21	36.8	M31×1.0	8.71~17.73	38	30.4
	23	39.3	M34×1.0	9.68~20.90	41	32.4
	25	42.3	M37×1.0	10.62~21.66	44	34.4

Anti-rotation, clamping cable accessories, can tighten hoop sealing body, clamping cable function, to ensure the environmental performance of connectors, used in cable tension occasions.

L3906/69-Heat shrink sleeve back shell

	Shell no	D1	D2	D3	Screw thread D4
	09	16.5	6.9	11.0	M12×1.0
	11	19.5	9.8	14.0	M15×1.0
	13	22.5	12.8	17.6	M18×1.0
	15	26.5	16.3	20.5	M22×1.0
	17	29.5	19.4	24.0	M25×1.0
	19	32.5	21.6	26.4	M28×1.0
	21	36.0	25.0	30.0	M31×1.0
	23	38.5	27.7	33.2	M34×1.0
	25	41.7	20.3	36.2	M37×1.0