

HL-JB599III series(MIL-DTL- -38999III series) Electrical connector

Product introduction

- * Conforms to HL-JB599A{MIL-DTL-38999K} II series
- * Three - threaded quick connection with anti - loose mechanism
- * Small size, light weight, high contact couple density
- * With electromagnetic shielding function
- * The contact parts are crimped and can be unloaded
- * With fireproof shell, composite material shell, aluminum alloy shell and a variety of coatings
- * With high strength vibration characteristics at high temperature, can be suitable for use in harsh wind sand and wet occasions



Main technical performance

[Mechanical properties]

— Shell: Aluminum alloy, stainless steel

— Coating:

Class W Cadmium plated army green Class F electroless nickel plating

Class K Passivation of stainless steel

— Insulator: thermosetting material

— Sealing body and sealing ring; Silicone rubber material

— Contact parts: gold plated copper alloy,

Crimp type, weld type, printed board type

— Mechanical life: 500 times

— Vibration:

Sine: 60g with temperature cycle and analog attachment (36 hours)

Random: 44.1grms at high temperature and 49.5grms at ambient temperature.

— Impact :3ms peak half sine wave acceleration 300g.

— Contact holding force: (minimum force measured by Newton)

22D#: 45N 20#: 67N

16# : 111N 12#: 111N

10# : 111N 8#: 111N

[Environmental performance]

— Operating temperature:

Class W -65°C~+175°C

Class F and K -65°C~ + 200°C

— Humid heat: Press MIL-DTL-38999K: 10 cycles in 24 hours

— Liquid resistance: Resistance to a variety of fuels, coolants, solvents

— Salt spray: Test according to Method 1001 in GJB1217

Class W 500h Class K 1000h

Class F 48h

[Electrical properties]

— Contact resistance and rated current of contact parts:

Contact specification	Working diameter mm	Contact resistance mΩ	Rated current 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
8#	Φ3.6	≤0.57	46

— Insulation resistance:

Normal conditions ≥5000 Mω

— Electrical continuity between enclosures:

Class W ≤2.5mΩ Class F ≤ 1.0 mω

Class K ≤5mΩ

— Electromagnetic interference shielding:

At 100MHz- 1GHz, the minimum attenuation is 85dB

At 1GHz~ 10GHz, the minimum attenuation is 65dB

— Resistance voltage: V

Job class	M	N	I	II
Sea level	1300	1000	1800	2300
21000m	800	600	1000	1000

Note: Different contact arrangements have different working levels, see contact arrangements for details.

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Type naming

Series name	J599/	20	W	B	35	P	N	-H
type	20- Socket with square plate 24- Fasten the socket with nuts 26- Shield plug							
Shell coating	W- cadmium plating F- electroless nickel plating K a stainless steel passivation							
Housing number	09, 11, 13, 15, 17, 19, 21, 23, 25							
Index numbers A to J	A, B, C, D, E, F, G, H, J							
Contact arrangement	See "Contact Arrangement" diagram for details							
Contact type	P- Insert pin. Crimped type PL- Insert pin. Long printed board type PC- Pin. Short printed board type A- Special pin contact				S- Jack. Crimp type SL- Jack. Long printed board type SC- Jack. Short printed board type B- Special jack contact			
Key position	N- Normal keys :A, B, C, D, E							
Identification of welded contacts (for welded connectors only)	H Weld the contacts							

Note; 1. The model names ofHLJB599Aand MIL-DTL -38999K are identical except for the name of the main name. The main name ofHLJB599Ais "J599", and the main name of MIL-DTL-38999K is "D38999". The two are interchangeable

2. Identification number A and B are used to indicate that the electrical connector uses contact parts (such as shield, coaxial, optical fiber contact parts, etc.) that are different from the non-standard configuration ofHLJB1611. Such contact parts need to be ordered separately. For details, see "Special Contact parts foHLJB599AII series".

3. When the contact type is PC or SC, the normal key N must be marked.

4. If high oil resistance is required, the sealing material of the connector is fluoro-silicone rubber, and C1 is added to the original type (for example: J599/20WB35PNC1).

Crimp contact

Contact specification	Diameter mm	Pin colored cup	Jack color	Inner diameter of wire cylinder mm	Press cylinder outer diameter mm	Adaptor cross section mm ²	ADAPTS American standard cable AWG	Adapter wire insulation outer diameter mm	Take off the tools and replace the bow
22D#	0.76	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
20#	1.00	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
16#	1.60	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
12#	2.40	Orange-blue-green	Orange-green-orange	2.49	3.84	2.0 3.0	14 12	2.46-3.61	M81969/ 14-04
10#	3.15	Green-red-gray	Green-orange-purple	3.40	4.65	3.0 4.8	12 10	3.42-4.12	M81969/ 14-05

Note: See "Instructions for crimping Tools for GJB599 series products" for the required crimping tools and instructions for use.

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Insulator hole arrangement (Pin insulator insertion surface view)

Housing number	35	M	98	I										
		6-22D#		3-20#										
09 (A)	35	M	05	I	98	I	99	I	02	I	04	I	01	I
		13-22D#		5-20#		6-20#		7-20#		2-16#		4-20#		1-12#
11 (B)	35	M	98	I	08	I	04	I	03	II	12	N		
		22-22D#		10-20#		8-20#		4-16#		3-16#		1-12#		11-22D#
13 (C)	35	M	19	I	18	I	05	II	97	I				
		37-22D#		19-20#		18-20#		5-16#		8-20#		4-16#		
15 (D)	15	I	03	II										
		14-20#		2-12#		1-16#								
17 (E)	35	M	26	I	06	I	08	II	99	I				
		55-22D#		26-20#		6-12#		8-16#		21-20#		2-16#		
19 (F)	02	I	02a	I	05	II	75	M						
		38-22D#		38-22D#		5-12#		2-8# Double coaxial		1-8# Double coaxial		1-12# shield		
15 (D)	35	M	32	I	11	II	28	I						
		66-22D#		32-20#		11-16#		26-20#		2-16#				
19 (F)	18	M	30	I	45	M								
		14-22D#		29-20#		67-22D#		4-8# Double coaxial		1-16#				

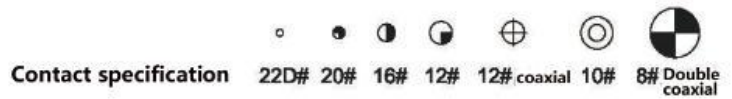
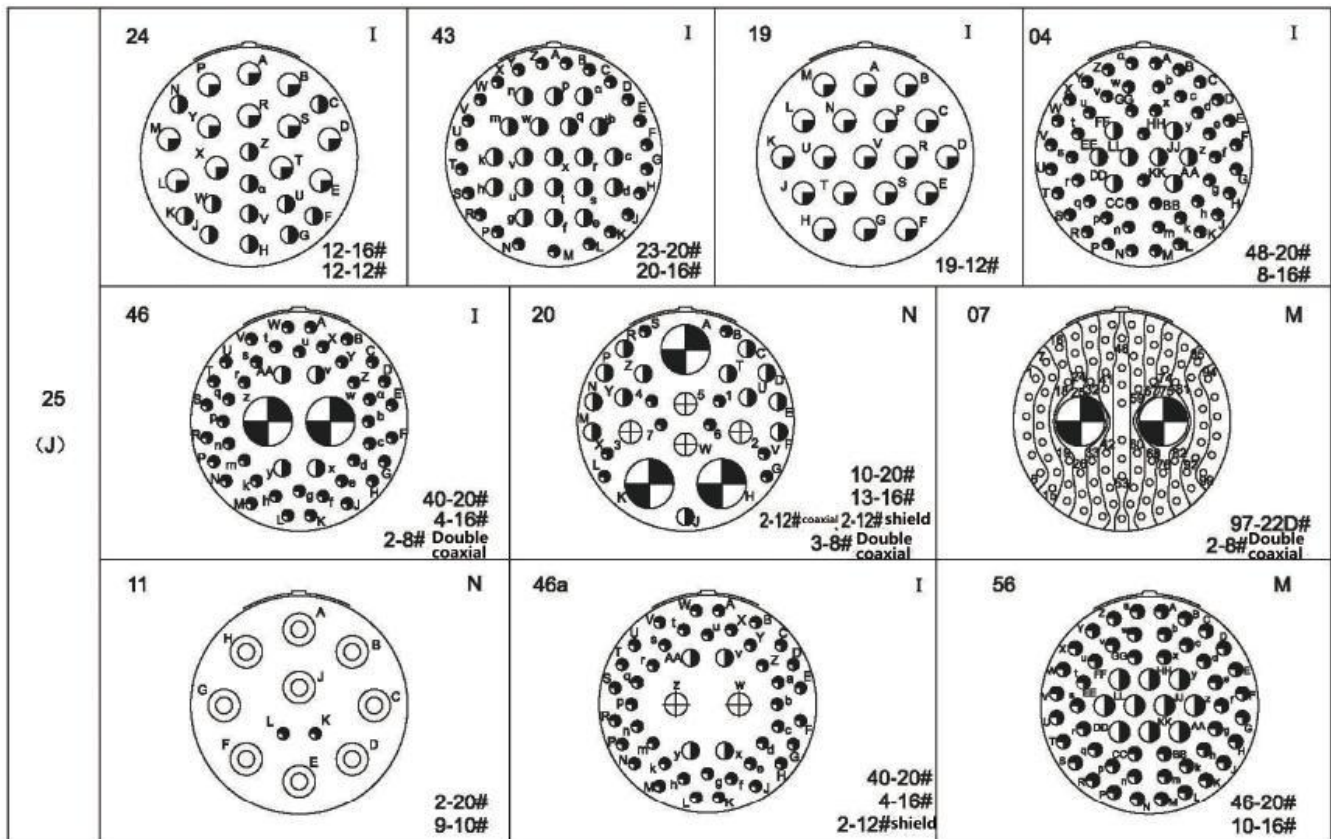
Contact specification 22D# 20# 16# 12# 12# coaxial 10# 8# Double coaxial

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21 (G)	35 M 79-22D#	41 I 41-20#	16 II 16-16#	39 I 37-20# 2-16#
	11 II 11-12#	75 I 4-8# Double coaxial	24 I 24-20#	25 I 25-20#
	27 I 27-20#			
23 (H)	35 M 100-22D#	55 I 55-20#	53 I 53-20#	21 II 21-16#
	32 I 32-20#	34 I 34-20#	36 I 36-20#	97 I 16-16#
	99 II 11-16#			
25 (J)	35 M 128-22D#	61 I 61-20#	08 I 8-8# Double coaxial	29 I 29-16#

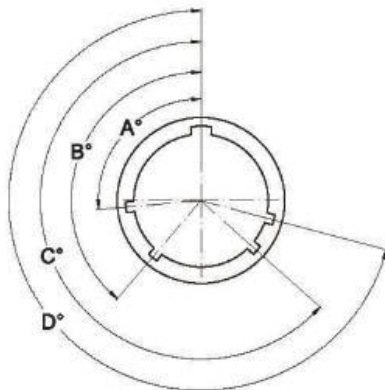
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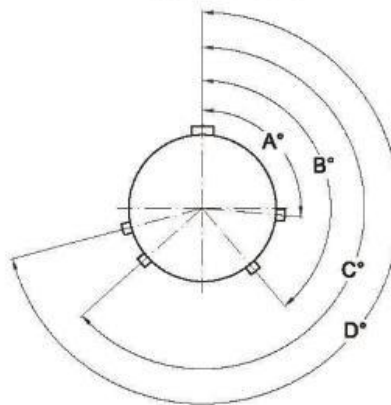


Housing key

Socket front view



Front view of plug.



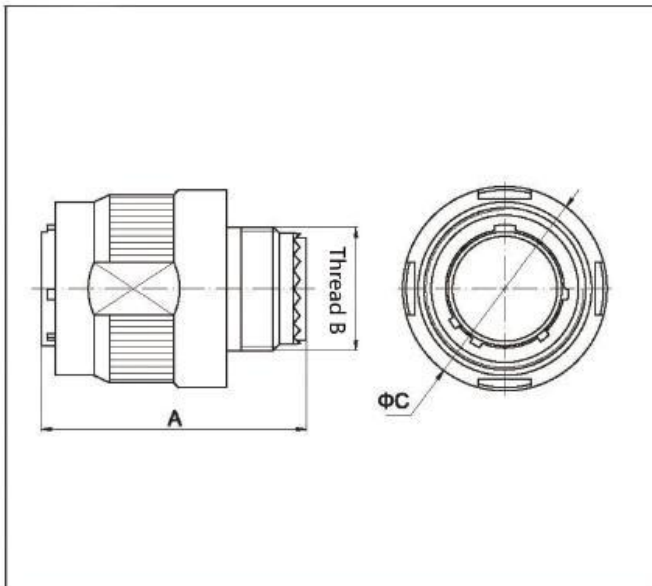
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Housing number	MS shell number	Key position	A°	B°	C°	D°
09	A	N	105	140	215	265
		A	102	132	248	320
		B	80	118	230	312
		C	35	140	205	275
		D	64	155	234	304
		E	91	131	197	240
11 13 15	B C D	N	95	141	208	236
		A	113	156	182	292
		B	90	145	195	252
		C	53	156	220	255
		D	119	146	176	298
		E	51	141	184	242
17 19 21 23 25	E F G H J	N	80	142	196	293
		A	135	170	200	310
		B	49	169	200	244
		C	66	140	200	257
		D	62	145	180	280
		E	79	153	197	272

Overall dimension

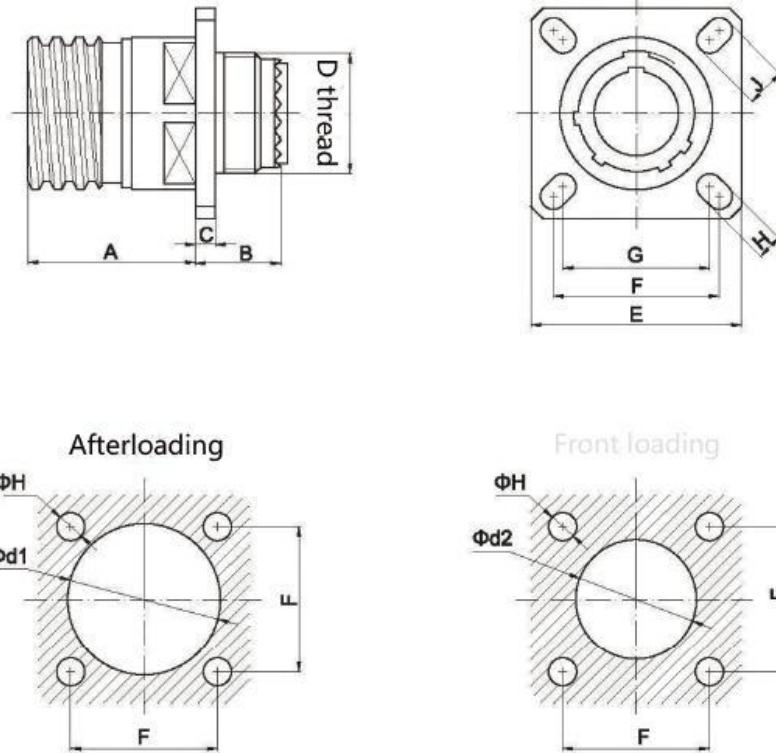
[plug]

Housing number	MS shell number	A maximum	B thread	C maximum
09	A	31.00	M12 × 1—6g	21.60
11	B	31.00	M15 × 1—6g	24.85
13	C	31.00	M18 × 1—6g	29.25
15	D	31.00	M22 × 1—6g	32.30
17	E	31.00	M25 × 1—6g	35.50
19	F	31.00	M28 × 1—6g	38.30
21	G	31.00	M31 × 1—6g	41.44
23	H	31.00	M34 × 1—6g	44.88
25	J	31.00	M37 × 1—6g	47.82



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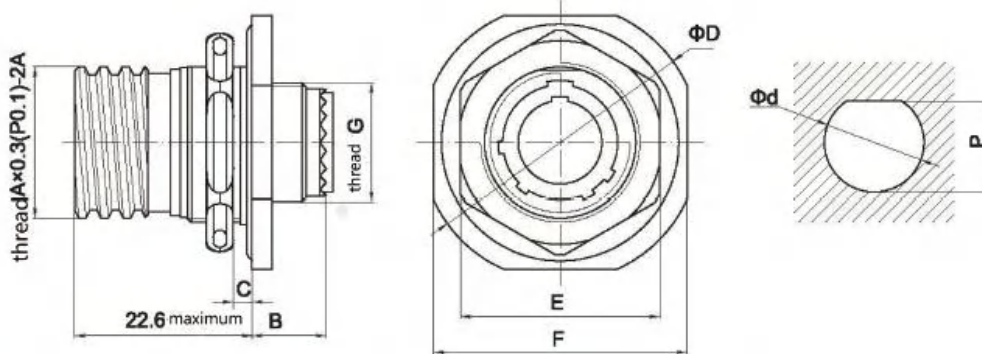
[Square socket]



Housing number	MS shell number	A maximum	B maximum	C maximum	D thread	E	F	G	H	J	d1 minimum	d2 minimum
09	A	20.83	10.6	2.5	M12 × 1—6g	23.80	18.26	15.09	3.25	5.49	16.66	13.11
11	B	20.83	10.6	2.5	M15 × 1—6g	26.20	20.62	18.26	3.25	4.93	20.22	15.88
13	C	20.83	10.6	2.5	M18 × 1—6g	28.60	23.01	20.62	3.25	4.93	23.42	19.05
15	D	20.83	10.6	2.5	M22 × 1—6g	31.00	24.61	23.01	3.25	4.39	26.59	23.01
17	E	20.83	10.6	2.5	M25 × 1—6g	33.30	26.97	24.61	3.25	4.93	30.96	25.81
19	F	20.83	10.6	2.5	M28 × 1—6g	36.50	29.36	26.97	3.25	4.93	32.94	28.98
21	G	20.07	11.4	3.2	M31 × 1—6g	39.70	31.75	29.36	3.25	4.93	36.12	32.16
23	H	20.07	11.4	3.2	M34 × 1—6g	42.90	34.93	31.75	3.91	6.15	39.29	34.93
25	J	20.07	11.4	3.2	M37 × 1—6g	46.00	38.10	34.93	3.91	6.15	42.47	37.69

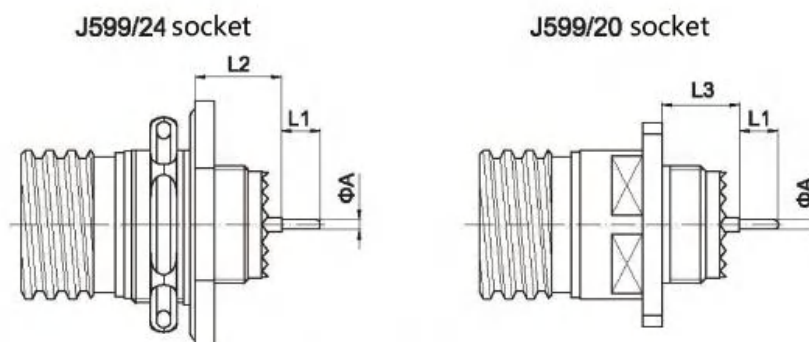
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[Nut fastening socket]



Housing number	MC shell number	A	B maximum	C maximum	D maximum	E maximum	F	G thread	d	p
09	A	0,6250	9,90	3,20	30,20	22,50	27,00	M12 × 1—6g	17,70	16,99
11	B	0,7500	9,90	3,20	34,90	25,00	31,80	M15 × 1—6g	20,88	19,53
13	C	0,8750	9,90	3,20	38,10	30,00	34,90	M18 × 1—6g	25,58	24,26
15	D	1,0000	9,90	3,20	41,30	33,30	38,10	M22 × 1—6g	28,80	27,53
17	E	1,1875	9,90	3,20	44,50	36,50	41,30	M25 × 1—6g	32,2	30,68
19	F	1,2500	9,90	3,20	49,20	39,70	46,00	M28 × 1—6g	35,15	33,86
21	G	1,3750	9,90	3,20	52,40	43,00	49,20	M31 × 1—6g	38,28	37,06
23	H	1,5000	9,90	3,20	55,60	46,00	52,40	M34 × 1—6g	41,50	40,24
25	J	1,6250	9,90	3,20	58,70	50,70	55,60	M37 × 1—6g	44,68	43,41

[HL-JB599II series Receptacle with printed board type contacts]



Printed board type contact part specification		L1	A
22D#	Long printed board contact	8.5	0.7
	Short printed board contact	4.0	
20#	Long printed board contact	8.5	0.7
	Short printed board contact	5.1	
16#	Long printed board contact	8.5	1.15
	Short printed board contact	5.1	

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Dimensions for fitting contact parts of different specifications			Housing number 09—11	Housing number 13—15—17—19—21—23—25
L2	When installing the 22D # pin	minimum	10.52	10.34
		maximum	11.46	11.28
	When installing 22D # jack	minimum	10.19	10.01
		maximum	11.46	11.28
	When installing 20# or 16# pins and jacks	minimum	10.69	10.51
		maximum	11.63	11.45
L3	When installing the 22D # pin	minimum	9.48	9.48
		maximum	10.58	10.58
	When installing 22D # jack	minimum	9.15	9.15
		maximum	10.58	10.58
	When installing 20# or 16 # pins and jacks	minimum	9.65	9.65
		maximum	10.75	10.75

[HL-JB599 II Series welding product dimensions]

Specification for welded contacts	L	Weld cup inside diameter	Maximum adapter wire gauge (AWG)
22D #	4	Φ0.9	22
20 #	4	Φ1.1	20
16 #	4	Φ1.9	16
12 #	4	Φ2.9	12
10 #	6	Φ3.6	8
8 #	6	Φ4.8	6

Note: coaxial contact without welding type contact.