

HS SERIES SHELL SIZE 12-35mm TRADITIONAL CONNECTORS

Introduction

The HS series is generally called “metal connector”, and is the most widely used standard multi-pin circular connector.

Being sturdy and simple in construction, the HS connectors are stable mechanically and electrically and

are employed by NTT and set manufacturers as standard parts.

For the performance of the HS series connectors, see the terminal arrangement of the HS series on pages 15-18.

Material & Finish

Part	Material	Finish
Shell	Brass or Synthetic resin	Nickel plated
Insulator	Synthetic resin	
Pin contact	Brass	Nickel plated
Socket contact	Brass or phosphor bronze	Nickel plated



Ordering Information

	HS	21	P	A	—	2	A
(1) Series name							
(2) Shell size							
(3) Shell type							
(4) Shell model change mark							
(5) Number of contacts							
(6) Contact arrangement change mark							

(1) Series name: HS stands for HIROSE STANDARD.

(2) Shell size: The shell size is expressed as the outside diameter of the plug fitting section (insulator) with seven types; 12, 14, 16, 21, 25, 28 and 35.

(3) Shell type: The shell is classified into the following types.

P : Plug

R : Receptacle

J : Jack

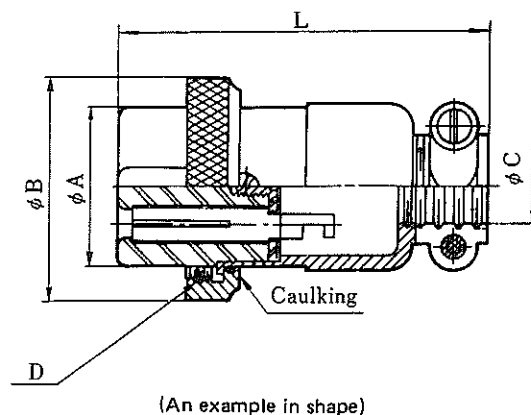
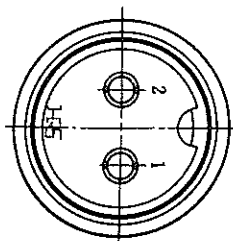
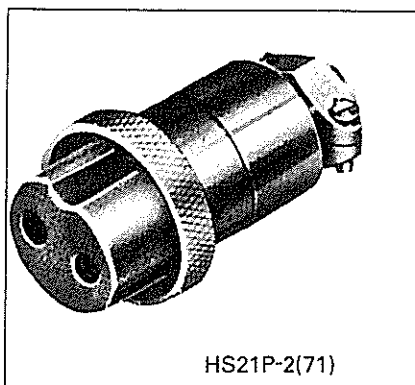
RC : Receptacle cap

(4) Shell model change mark: Each time the shell undergoes a model change, it is marked as A, B or C.

(5) Contact: Number of terminals.

(6) Contact arrangement change mark: When the contact fitting section or contact arrangement undergoes a change, it is marked as A, B, C....after the number of contacts.

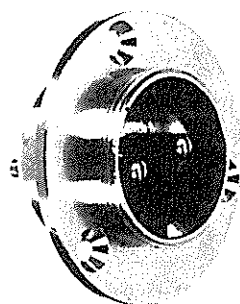
Plug



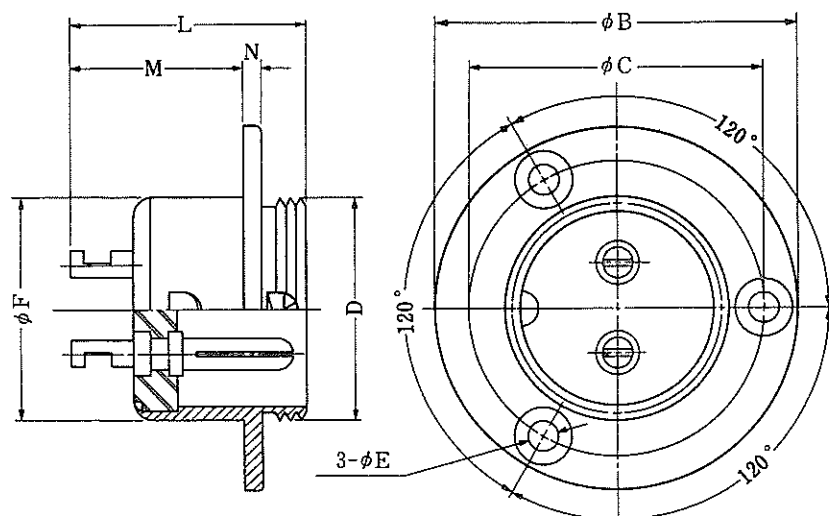
HRS No.	Part No.	φA	φB	φC	D	L	RoHS
101-0002-0-71	HS12P-2(71)	12	18	7	M15.5×1	38	○
101-0013-7-71	HS14P-2(71)	13.5	21.5	8.5	M19×1	43	
101-0030-6-71	HS16P-2(71)	15.5	21.5	8.5	M19×1	43	
101-0031-9-71	HS16P-3(71)	15.5	21.5	8.5	M19×1	43	
101-0034-7-71	HS16P-4(71)	15.5	21.5	8.5	M19×1	43	
101-0275-3-71	HS16P-5(71)	15.5	21.5	8.5	M19×1	43	
101-0053-1-71	HS21P-2(71)	21	28	10	M25×1	50	
101-0060-7-71	HS21P-3(71)	21	28	10	M25×1	50	
101-0066-3-71	HS21P-4(71)	21	28	10	M25×1	50	
101-0069-1-71	HS21P-5(71)	21	28	10	M25×1	50	
101-0074-1-71	HS21P-6(71)	21	28	10	M25×1	50	
101-0075-4-71	HS21P-7(71)	21	28	10	M25×1	50	
101-0076-7-71	HS21P-8(71)	21	28	10	M25×1	50	
101-0369-5-71	HS21P-10(71)	21	28	10	M25×1	49	
101-0115-7-71	HS25P-2(71)	25	32	10	M29×1	54.5	
101-0117-2-71	HS25P-3(71)	25	32	10	M29×1	54.5	
101-0119-8-71	HS25P-4(71)	25	32	10	M29×1	54.5	
101-0120-7-71	HS25P-5(71)	25	32	10	M29×1	54.5	

HRS No.	Part No.	φA	φB	φC	D	L	RoHS
101-0122-2-71	HS25P-6(71)	25	32	10	M29×1	54.5	○
101-0124-8-71	HS25P-7(71)	25	32	10	M29×1	54.5	
101-0128-9-71	HS25P-8(71)	25	32	10	M29×1	54.5	
101-0129-1-71	HS25P-10(71)	25	32	10	M29×1	54.5	
101-0151-0-71	HS28P-2(71)	28	38	16	M34×1	64.5	
101-0153-6-71	HS28P-3(71)	28	38	16	M34×1	64.5	
101-0154-9-71	HS28P-4(71)	28	38	16	M34×1	64.5	
101-0155-1-71	HS28P-4A(71)	28	38	16	M34×1	64.5	
101-0157-7-71	HS28P-7(71)	28	38	16	M34×1	64.5	
101-0158-0-71	HS28P-8(71)	28	38	16	M34×1	64.5	
101-0159-2-71	HS28P-12(71)	28	38	16	M34×1	64.5	
101-0272-5-71	HS35PB-2(71)	35	46	19	M41×1	71.5	
101-0270-0-71	HS35PB-3(71)	35	46	19	M41×1	71.5	
101-0187-8-71	HS35PB-16(71)	35	46	19	M41×1	71.5	
101-0189-3-71	HS35PB-20(71)	35	46	19	M41×1	71.5	

Receptacle



HS21R-2(71)

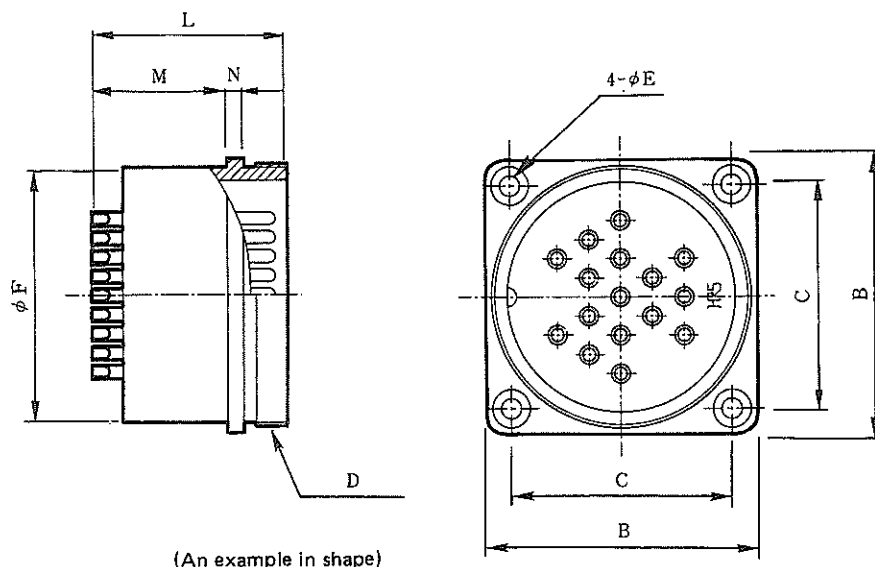
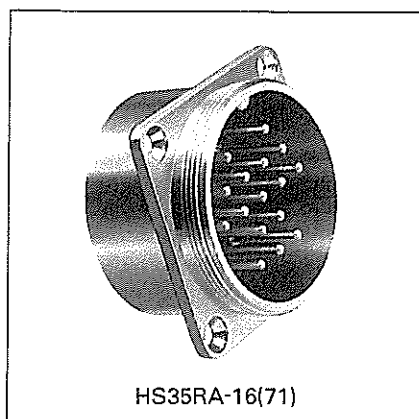


(An example in shape)

HRS No.	Part No.	ϕB	ϕC	D	ϕE	ϕF	L	M	N	RoHS
101-0007-4-71	HS12R-2(71)	23	19	M15.5×1	2.1*	14	22.5	16	1.5	○
101-0016-5-71	HS14R-2(71)	32	25.5	M19×1	3.2	16.5	23	16	2	
101-0040-0-71	HS16R-2(71)	32	25.5	M19×1	3.2	19	23	16	2	
101-0041-2-71	HS16R-3(71)	32	25.5	M19×1	3.2	19	23	16	2	
101-0042-5-71	HS16R-4(71)	32	25.5	M19×1	3.2	19	23	16	2	
101-0448-0-71	HS16R-5(71)	32	25.5	M19×1	3.2	19	23	16	2	
101-0084-5-71	HS21R-2(71)	41	33	M25×1	3.2	25	26.5	19.5	2	
101-0089-9-71	HS21R-3(71)	41	33	M25×1	3.2	25	26.5	19.5	2	
101-0091-0-71	HS21R-4(71)	41	33	M25×1	3.2	25	26.5	19.5	2	
101-0093-6-71	HS21R-5(71)	41	33	M25×1	3.2	25	26.5	19.5	2	
101-0095-1-71	HS21R-6(71)	41	33	M25×1	3.2	25	26.5	19.5	2	
101-0096-4-71	HS21R-7(71)	41	33	M25×1	3.2	25	26.5	19.5	2	
101-0097-7-71	HS21R-8(71)	41	33	M25×1	3.2	25	26.5	19.5	2	
101-0370-4-71	HS21R-10(71)	41	33	M25×1	3.2	25	24.5	17.5	2	
101-0130-0-71	HS25R-2(71)	46	37	M29×1	3.2	29	26.5	19.5	2	
101-0131-3-71	HS25R-3(71)	46	37	M29×1	3.2	29	26.5	19.5	2	
101-0132-6-71	HS25R-4(71)	46	37	M29×1	3.2	29	26.5	19.5	2	
101-0133-9-71	HS25R-5(71)	46	37	M29×1	3.2	29	26.5	19.5	2	
101-0135-4-71	HS25R-6(71)	46	37	M29×1	3.2	29	26.5	19.5	2	
101-0136-7-71	HS25R-7(71)	46	37	M29×1	3.2	29	26.5	19.5	2	
101-0137-0-71	HS25R-8(71)	46	37	M29×1	3.2	29	26.5	19.5	2	
101-0138-2-71	HS25R-10(71)	46	37	M29×1	3.2	29	26.5	19.5	2	
101-0160-1-71	HS28R-2(71)	51	43	M34×1	3.2	32	35.5	28	2	
101-0162-7-71	HS28R-3(71)	51	43	M34×1	3.2	32	36	28.5	2	
101-0163-0-71	HS28R-4(71)	51	43	M34×1	3.2	32	26.5	19	2	
101-0164-2-71	HS28R-4A(71)	51	43	M34×1	3.2	32	36	28.5	2	
101-0276-6-71	HS28R-7(71)	51	43	M34×1	3.2	32	26.5	19	2	
101-0166-8-71	HS28R-8(71)	51	43	M34×1	3.2	32	26.5	19	2	
101-0169-6-71	HS28R-12(71)	51	43	M34×1	3.2	32	26.5	19	2	
101-0269-0-71	HS35RC-2(71)	58	50	M41×1	3.2	40	38	28.5	2.5	
101-0273-8-71	HS35RC-3(71)	58	50	M41×1	3.2	40	38	28.5	2.5	

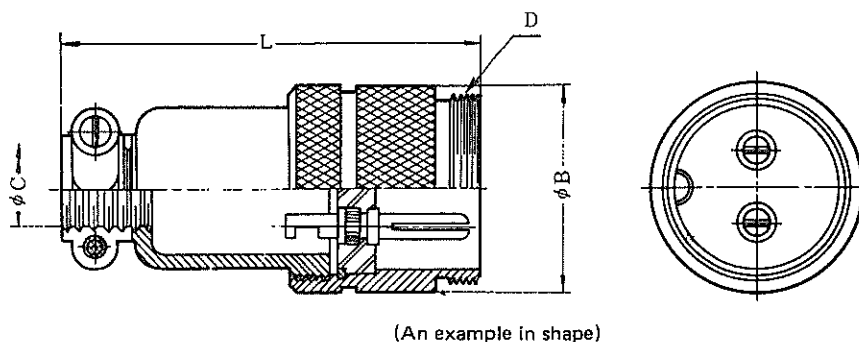
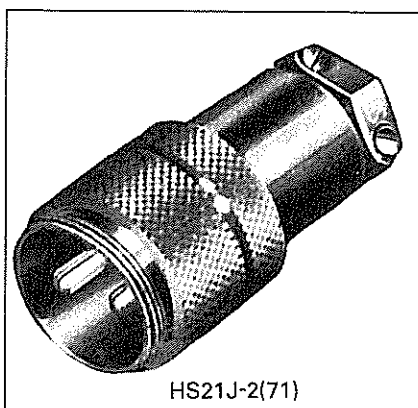
* : 1.6ϕ flat head screw is recommended for mounting.

Receptacle



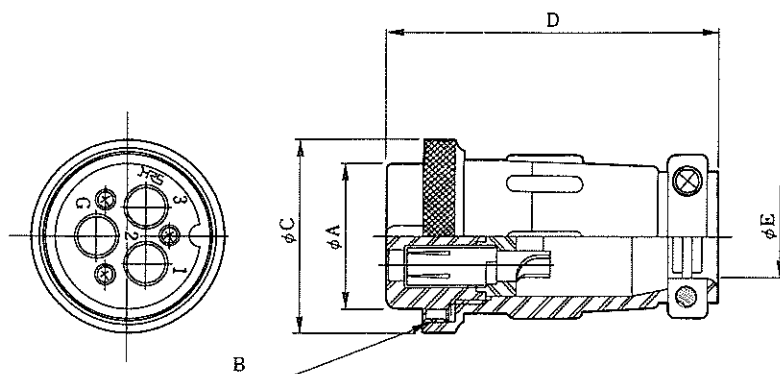
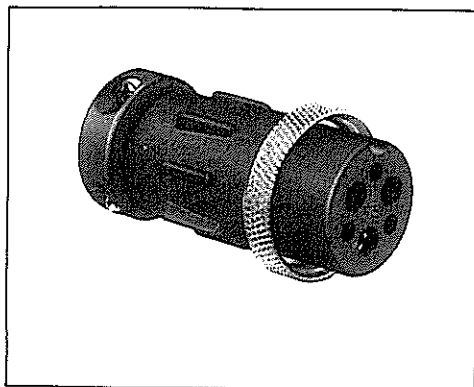
HRS No.	Part No.	B	C	D	ϕE	ϕF	L	M	N	RoHS
101-0200-4-71	HS35RA-16(71)	43	35	M41×1	3.2	40	31	21.5	2.5	○
101-0201-7-71	HS35RA-20(71)	43	35	M41×1	3.2	40	31	21.5	2.5	

Jack



HRS No.	Part No.	ϕB	ϕC	D	L	RoHS
101-0010-9-71	HS12J-2(71)	18	7	M15.5×1	44.5	○
101-0047-9-71	HS16J-2(71)	21.5	8.5	M19×1	50	
101-0048-1-71	HS16J-3(71)	21.5	8.5	M19×1	50	
101-0049-4-71	HS16J-4(71)	21.5	8.5	M19×1	50	
101-0416-3-71	HS16J-5(71)	21.5	8.5	M19×1	50	
101-0104-0-71	HS21J-2(71)	28	10	M25×1	57	
101-0105-3-71	HS21J-3(71)	28	10	M25×1	57	
101-0106-6-71	HS21J-4(71)	28	10	M25×1	57	
101-0107-9-71	HS21J-5(71)	28	10	M25×1	57	

Plug (Plastic Type)

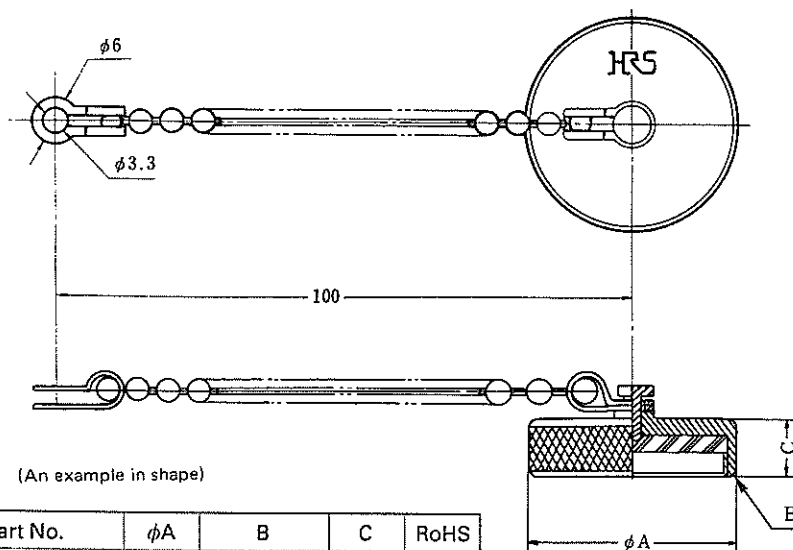
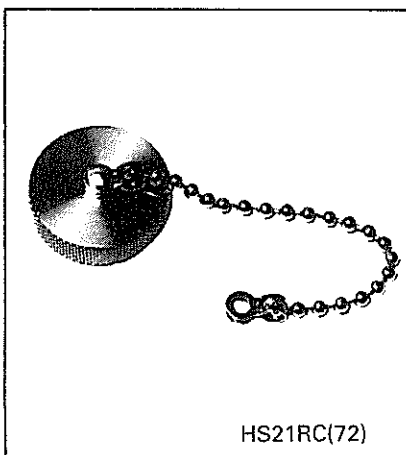


(An example in shape)

HRS No.	Part No.	ϕA	B	ϕC	D	ϕE	RoHS
101-0540-2-71	HS28PD-3B (71)	28.6	M34×1	38	66	16	○

Remarks : Class A electric products in compliance with the Electric Products Control Regulations

Cap for Receptacle

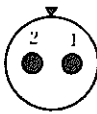


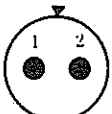
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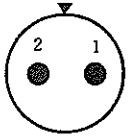
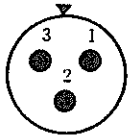
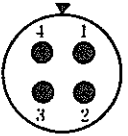
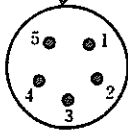
HRS No.	Part No.	ϕA	B	C	RoHS
101-0011-1-72	HS12RC (72)	18	M15.5×1	7	○
101-0027-1-72	HS14RC (72)	21.5	M19×1	7	
101-0109-4-72	HS21RC (72)	28	M25×1	7	
101-0148-6-72	HS25RC (72)	32	M29×1	7	
101-0174-6-72	HS28RC (72)	38	M34×1	7	
101-0207-3-72	HS35RC (72)	46	M41×1	9	

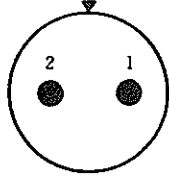
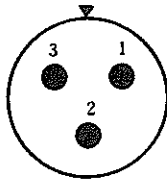
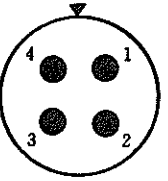
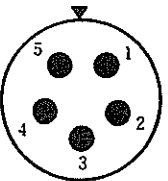
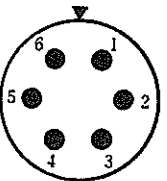
Note : Part No. HS14RC is possible to use as cap of size 16.

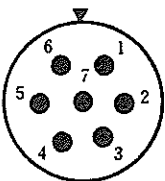
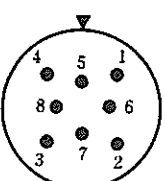
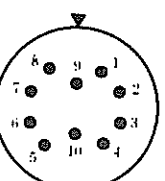
Contact Arrangement

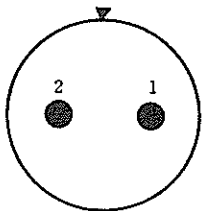
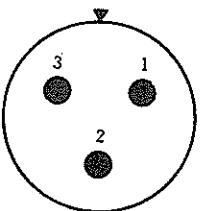
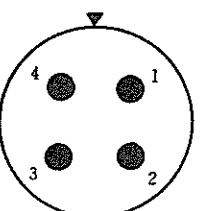
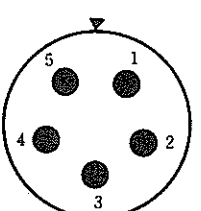
Shell size	
12	
No. of pins	2
Withstanding voltage	AC1000V a minute
Current rating	7 A
Insulation resistance	1000MΩ MIN.
Contact resistance	5mΩ MAX.
Solder cup dia.	φ1.5

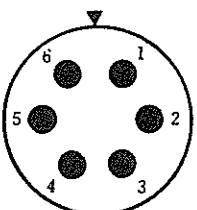
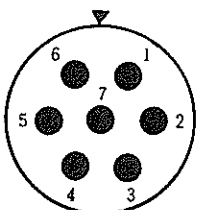
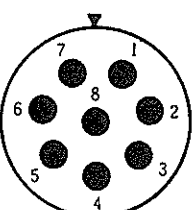
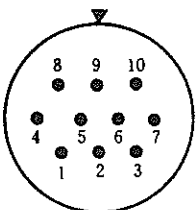
Shell size	
14	
No. of pins	2
Withstanding voltage	AC1000V a minute
Current rating	7 A
Insulation resistance	1000MΩ MIN.
Contact resistance	5mΩ MAX.
Solder cup dia.	φ1.5

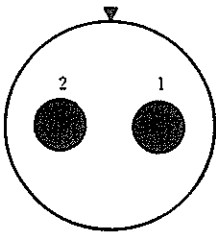
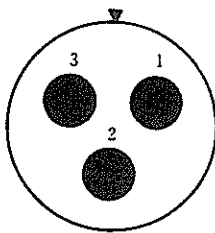
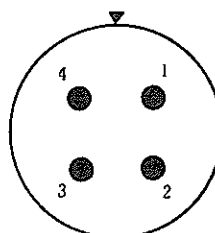
Shell size				
16				
No. of pins	2	3	4	5
Withstanding voltage	AC1000V a minute	AC1000V a minute	AC1000V a minute	AC1000V a minute
Current rating	7A	7A	7A	2A
Insulation resistance	1000MΩ MIN.	1000MΩ MIN.	1000MΩ MIN.	1000MΩ MIN.
Contact resistance	5mΩ MAX.	5mΩ MAX.	5mΩ MAX.	5mΩ MAX.
Solder cup dia.	φ1.8	φ1.8	φ1.8	φ1.5

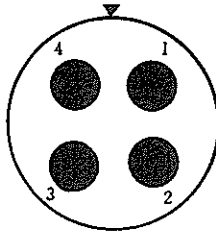
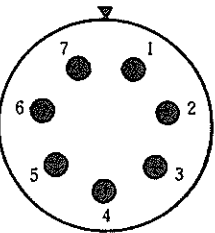
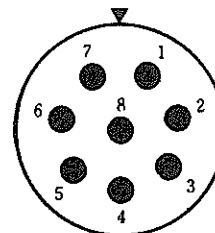
Shell size					
21					
No. of pins	2	3	4	5	6
Withstanding voltage	AC1000V a minute	AC1000V a minute	AC1000V a minute	AC500V a minute	AC1000V a minute
Current rating	10A	10A	10A	10A	7A
Insulation resistance	1000MΩ MIN.	1000MΩ MIN.	1000MΩ MIN.	1000MΩ MIN.	1000MΩ MIN.
Contact resistance	5mΩ MAX.	5mΩ MAX.	5mΩ MAX.	5mΩ MAX.	5mΩ MAX.
Solder cup dia.	φ2.0	φ2.0	φ2.0	φ2.0	φ1.5

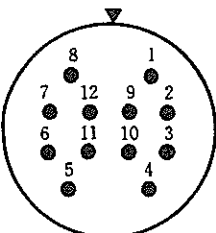
Shell size				
21				
No. of pins	7	8	10	
Withstanding voltage	AC1000V a minute	AC1000V a minute	AC1000V a minute	
Current rating	7A	4A	3A	
Insulation resistance	1000MΩ MIN.	1000MΩ MIN.	1000MΩ MIN.	
Contact resistance	5mΩ MAX.	5mΩ MAX.	5mΩ MAX.	
Solder cup dia.	φ1.5	φ1.2	φ1.5	

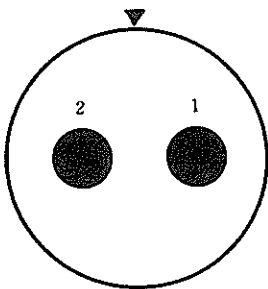
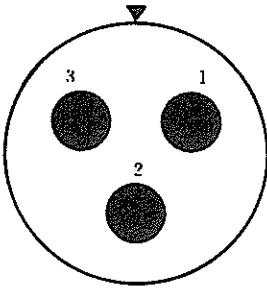
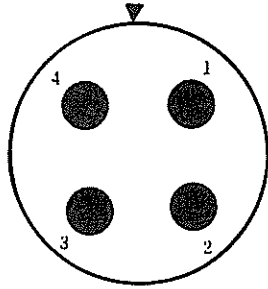
Shell size				
25				
No. of pins	2	3	4	5
Withstanding voltage	AC1000V a minute	AC1000V a minute	AC1000V a minute	AC1000V a minute
Current rating	10A	10A	10A	10A
Insulation resistance	1000MΩ MIN.	1000MΩ MIN.	1000MΩ MIN.	1000MΩ MIN.
Contact resistance	5mΩ MAX.	5mΩ MAX.	5mΩ MAX.	5mΩ MAX.
Solder cup dia.	φ2.0	φ2.0	φ2.0	φ2.0

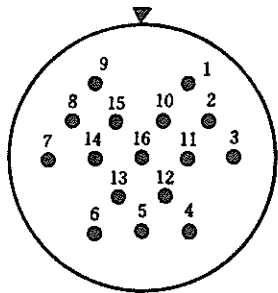
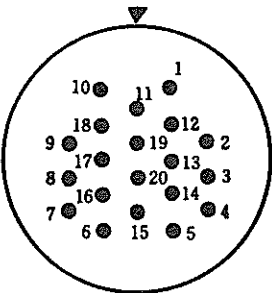
Shell size				
25				
No. of pins	6	7	8	10
Withstanding voltage	AC1000V a minute	AC1000V a minute	AC1000V a minute	AC1000V a minute
Current rating	10A	10A	10A	4A
Insulation resistance	1000MΩ MIN.	1000MΩ MIN.	1000MΩ MIN.	1000MΩ MIN.
Contact resistance	5mΩ MAX.	5mΩ MAX.	5mΩ MAX.	5mΩ MAX.
Solder cup dia.	φ2.0	φ2.0	φ2.0	φ1.2

Shell size			
28			
No. of pins	2	3	4
Withstanding voltage	AC1000V a minute	AC1000V a minute	AC1000V a minute
Current rating	30A	30A	7A
Insulation resistance	1000MΩ MIN.	1000MΩ MIN.	1000MΩ MIN.
Contact resistance	5mΩ MAX.	5mΩ MAX.	5mΩ MAX.
Solder cup dia.	φ 5.0 (receptacle: φ 6)	φ 5.0 (receptacle: φ 6)	φ 1.8 (receptacle: φ 1.5)

Shell size			
28			
No. of pins	4A	7	8
Withstanding voltage	AC1000V a minute	AC1000V a minute	AC1000V a minute
Current rating	20A	10A	10A
Insulation resistance	1000MΩ MIN.	1000MΩ MIN.	1000MΩ MIN.
Contact resistance	5mΩ MAX.	5mΩ MAX.	5mΩ MAX.
Solder cup dia.	φ 4.0 (receptacle: φ 5)	φ 2.0	φ 2.0

Shell size	
28	
No. of pins	12
Withstanding voltage	AC1000V a minute
Current rating	4A
Insulation resistance	1000MΩ MIN.
Contact resistance	5mΩ MAX.
Solder cup dia.	φ 1.2

Shell size			
35			
No. of pins	2	3	4
Withstanding voltage	AC1000V a minute	AC1000V a minute	AC1000V a minute
Current rating	40A	40A	20A
Insulation resistance	1000MΩ MIN.	1000MΩ MIN.	1000MΩ MIN.
Contact resistance	5mΩ MAX.	5mΩ MAX.	5mΩ MAX.
Solder cup dia.	Crimp contact dia. φ4.7	Crimp contact dia. φ4.7	φ4.0 (receptacle: φ3.0)

Shell size		
35		
No. of pins	16	20
Withstanding voltage	AC1000V a minute	AC1000V a minute
Current rating	4A	4A
Insulation resistance	1000MΩ MIN.	1000MΩ MIN.
Contact resistance	5mΩ MAX.	5mΩ MAX.
Solder cup dia.	φ1.2	φ1.2

Note:

1. Contact arrangements are shown at the fitting section of Plug.
2. Insulation resistance is measured at DC 500V.
3. Contact resistance is measured at DC 1A.
4. Withstanding voltage is shown as test voltage, so that the preferable value for daily operation is about one-third of each figure.