

# Metal Shell Circular Connectors

## HS Series



### 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.

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[Http://www.100y.com.tw](http://www.100y.com.tw)

### Material

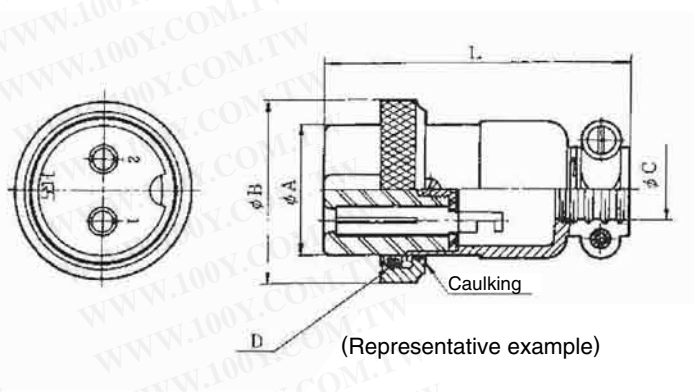
Part	Material	Finish
Shell	Copper compound metal	Nickel plated
Insulator	Synthetic resin	_____
Male contacts	Brass	Nickel plated
Female contacts	Brass or phosphor bronze	

### Ordering information

**HS 21 P A - 2 A**  
 ① ② ③ ④ ⑤ ⑥

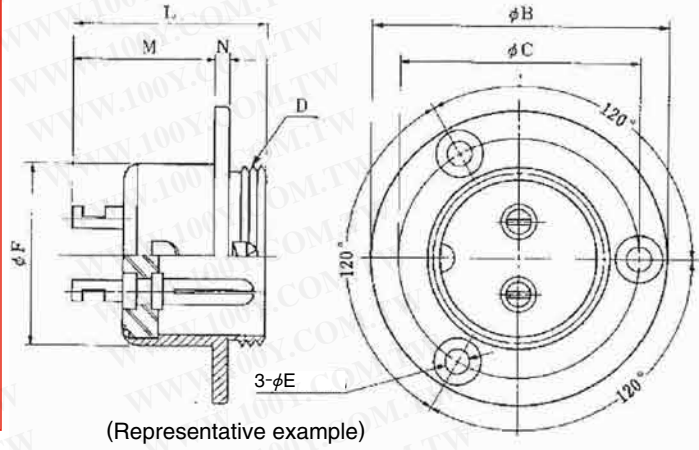
① Model name: HS stands for HIROSE STANDARD.
② Shell size: The shell size is expressed as the outside diameter of the plug fitting section (insulator) with seven types: 12, 14, 16, 21, 25, 28 and 35.
③ Shell type: The shell is classified into the following types. P : Plug R : Receptacle J : Jack RC : Receptacle cap
④ Shell model change mark: Each time the shell undergoes a model change, it is marked as A, B or C.
⑤ Number of contacts
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.	$\phi A$	$\phi B$	$\phi C$	D	L				
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								
101-0031-9 71	HS16P-3(71)									
101-0034-7 71	HS16P-4(71)									
101-0275-3 71	HS16P-5(71)									
101-0053-1 71	HS21P-2(71)	21	28	10	M25×1	50				
101-0060-7 71	HS21P-3(71)									
101-0066-3 71	HS21P-4(71)									
101-0669-1 71	HS21P-5(71)									
101-0074-1 71	HS21P-6(71)									
101-0075-4 71	HS21P-7(71)									
101-0076-7 71	HS21P-8(71)									
101-0369-5 71	HS21P-10(71)						49			
101-0115-7 71	HS25P-2(71)						25	32		M29×1
101-0117-2 71	HS25P-3(71)									
101-0122-2 71	HS25P-6(71)									
101-0128-9 71	HS25P-8(71)									
101-0129-1 71	HS25P-10(71)									
101-0154-9 71	HS28P-4(71)	28	38	16	M34×1	64.5				
101-0158-0 71	HS28P-8(71)									
101-0187-8 71	HS35PB-16(71)	35	46	19	M41×1	71.5				
101-0189-3 71	HS35PB-20(71)									

■ Receptacle



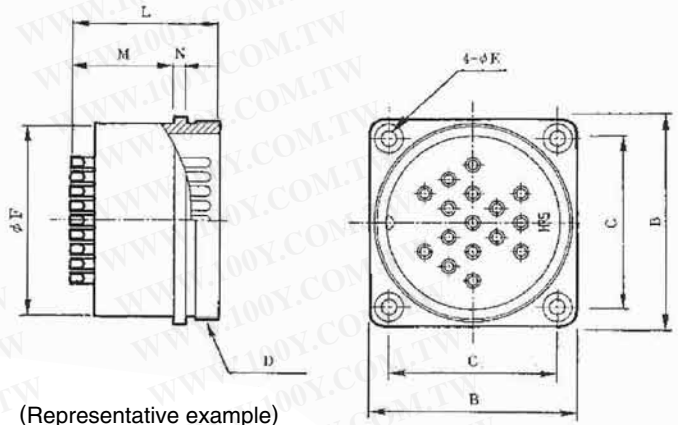
HRS No.	Part No.	φB	φC	D	φE	φF	L	M	N					
101-0007-4 71	HS12R-2(71)	23	19	M15.5×1	2.1*	14	22.5	16	1.5					
101-0016-5 71	HS14R-2(71)	32	25.5	M19×1	3.2	16.5	23							
101-0040-0 71	HS16R-2(71)					19								
101-0041-2 71	HS16R-3(71)													
101-0042-5 71	HS16R-4(71)	41	33	M25×1	3.2	25	26.5	19.5	2					
101-0448-0 71	HS16R-5(71)													
101-0084-5 71	HS21R-2(71)						24.5	17.5						
101-0089-9 71	HS21R-3(71)													
101-0091-0 71	HS21R-4(71)													
101-0093-6 71	HS21R-5(71)						46	37		M29×1	3.2	29	26.5	19.5
101-0095-1 71	HS21R-6(71)													
101-0096-4 71	HS21R-7(71)												19	
101-0097-7 71	HS21R-8(71)													
101-0370-4 71	HS21R-10(71)													
101-0130-0 71	HS25R-2(71)	51	43	M34×1	3.2	32	26.5	19						
101-0131-3 71	HS25R-3(71)													
101-0135-4 71	HS25R-6(71)	51	43	M34×1	3.2	32	26.5	19						
101-0137-0 71	HS25R-8(71)													
101-0138-2 71	HS25R-10(71)													
101-0163-0 71	HS28R-4(71)	51	43	M34×1	3.2	32	26.5	19						
101-0166-8 71	HS28R-8(71)													

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

■ Receptacle



HS35RA-16(71)



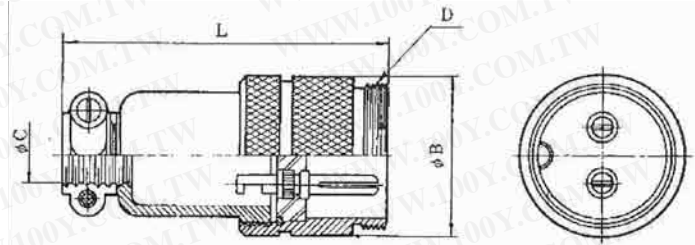
(Representative example)

HRS No.	Part No.	B	C	D	φE	φF	L	M	N
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)								

■ Jack



HS21J-2(71)



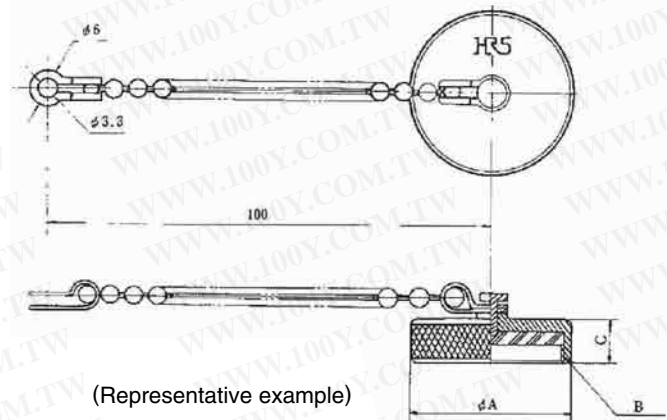
(Representative example)

HRS No.	Part No.	φB	φC	D	L
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)				
101-0049-4 71	HS16J-4(71)				
101-0416-3 71	HS16J-5(71)	28	10	M25×1	57
101-0104-0 71	HS21J-2(71)				
101-0107-9 71	HS21J-5(71)				

■ Cap for Receptacle



HS21RC(72)




(Representative example)


HRS No.	Part No.	φA	B	C
101-0011-1 72	HS12RC(72)	18	M15.5×1	7
101-0027-1 72	HS14RC(72)	21.5	M19×1	
101-0109-4 72	HS21RC(72)	28	M25×1	



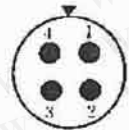

HRS No.	Part No.	φA	B	C
101-0148-6 72	HS25RC(72)	32	M29×1	9
101-0174-6 72	HS28RC(72)	38	M34×1	
101-0207-3 72	HS35RC(72)	46	M41×1	

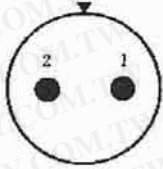
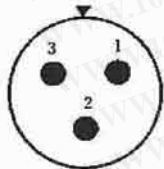
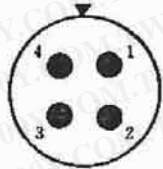
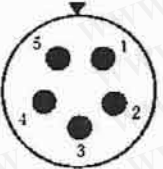

Note: Part No. HS14RC is possible to use as cap of size 16.

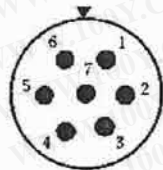
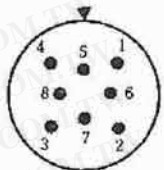

## Terminal Arrangement

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

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

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

Shell size					
21					
No. of contacts	2	3	4	5	6
Withstanding voltage	AC 1000V a minute			AC 500V a minute	AC 1000V a minute
Current rating	10A				7A
Insulation resistance	1000 MΩ MIN.				
Contact resistance	5 mΩ MAX.				
Solder cup dia.	φ2.0				φ1.5

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

Shell size				
No. of contacts	2	3	6	8
Withstanding voltage	AC 1000V a minute			
Current rating	10A			
Insulation resistance	1000 MΩ MIN.			
Contact resistance	5 mΩ MAX.			
Solder cup dia.	φ2.0			

Shell size		Shell size		
No. of contacts	10	No. of contacts	4	8
Withstanding voltage	AC 1000V a minute	Withstanding voltage	AC 1000V a minute	
Current rating	4A	Current rating	7A	10A
Insulation resistance	1000 MΩ MIN.	Insulation resistance	1000 MΩ MIN.	
Contact resistance	5 mΩ MAX.	Contact resistance	5 mΩ MAX.	
Solder cup dia.	φ1.2	Solder cup dia.	φ1.8(Receptacle: φ1.5)	φ2.0

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

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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.



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