

# MIL-DTL-5015 Style Circular Connectors

## D/MS A/B Series

DDK Ltd.

### ◆ OUTLINE

D/MS A/B series is compatible with MIL-DTL-5015 and a soldering termination connector.

A various combination of the plugs, receptacles and accessories is also available and can be used for cable-to-cable usage and cable-to-panel usage.

D/MS A/B series is provided with 12 kinds of shell sizes from 10SL to 36, 5 kinds of contact size from #16 to #0 and 73 kinds of insert arrangements to accommodate a wide variety of applications.



### ◆ APPLICATIONS

Aerospace, Machine Tool, Measurement Equipment, Communication Equipment and Other Industrial Equipment

#### ◆ CONFORMING STANDARD

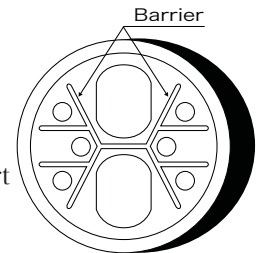
MIL-DTL-5015 Class A and B

#### ◆ SAFETY STANDARD

UL, C-UL Approved: File Number E72124

### ◆ FEATURES

- The barriers are placed between each contact on the insert to extend the creepage distance for the improvement of dielectric withstanding voltage characteristic.
  - Each of the plug shells and the receptacle shells can apply to both of the pin insert assemblies and the socket insert assemblies respectively excluding shell size 10SL.
  - A combination of the sockets for input and pin for output is recommended since D/MS A/B series is often used for high voltage equipment to prevent from any accidents.
  - The plug shell has a key way and the receptacle shell has a key. The key will be inserted into the key way before the contacts are mated. The insert is rotated within the shell from standard key way and 4 kinds of alternate insert positions, W, X, Y and Z are available to avoid cross-plugging problem
- in applications requiring the use of more than one connector of the same size and arrangement.
- The solder cups in the insert assembly face in same direction to solder cables easier.
  - The surface of shells is coated with zinc plating and finished with trivalent chromium treatment(\*) in color black to conform to RoHS directives. (\* : Cadmium plating and Olive Drab color is MIL- DTL-5015 specification). The conventional DMS series in Olive Drab color is also available upon your request.
  - With regard to the connectors which have more than 20 contacts the insertion and withdrawal force is designed by slightly lower within the range of MIL specifications in order to mate and unmate by hand easier.



DDK



Other Manufacture's

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Conforming  
Standard  
MIL-DTL-5015

Lock Type  
Threaded  
Coupling

## ▶ SPECIFICATIONS

<b>Rated Current</b>	<table border="1"> <thead> <tr> <th>Contact Size</th> <th>Assembled in Insulator</th> </tr> </thead> <tbody> <tr> <td># 16</td> <td>13A max.</td> </tr> <tr> <td># 12</td> <td>23A max.</td> </tr> <tr> <td># 8</td> <td>46A max.</td> </tr> <tr> <td># 4</td> <td>80A max.</td> </tr> <tr> <td># 0</td> <td>150A max.</td> </tr> </tbody> </table>	Contact Size	Assembled in Insulator	# 16	13A max.	# 12	23A max.	# 8	46A max.	# 4	80A max.	# 0	150A max.															
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## ▶ MATERIAL / FINISH

Item	Material / Finish
Contact	Copper Alloy / Silver or Gold Plating
Insert	Diallyl Phthalate Resin(Blue)
Shell	Aluminum Alloy / Zinc Plating, Black Trivalent Chromium Treatment
Retaining Ring	Copper Alloy / Nickel Plating
Gasket	Synthetic Rubber (Nitrile)

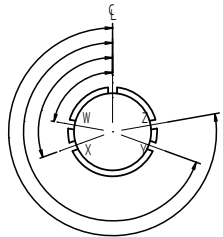
▶ D/MS Series A/B Type Ordering Information

D/MS3102A18-10PY (62)

Connector Style
D/MS3100A Wall Mount Receptacle  (12S ~ 36 Size)
D/MS3101A Cable Receptacle  (12S ~ 36 Size)
D/MS3102A Box Mount Receptacle  (10SL ~ 36 Size)
D/MS3106A Straight Plug  (10SL ~ 36 Size)
D/MS3106B Straight Plug (Split Backshell)  (12S ~ 36 Size)
D/MS3108B Right Angle Plug (Split Backshell)  (12S ~ 36 Size)

**Deviation**  
Omit : Silver Plated Contacts (Standard)  
(62) : Gold Plated Contacts (0.5 μ m AU over Ni)

**Alternate Insert Position**  
No letter is required for normal position. The alternate insert positions, W, X, Y and Z, are available. W, X, Y and Z designate that an insert is rotated in its shell from the standard position. For detailed alternate insert positions, refer to page 8



**Contact Type**  
P : Pin Contact  
S : Socket Contact  
When a receptacle connector has pin contacts (P), its mating plug connector should have socket contacts(S). Reverse style of contacts is also feasible.

**Shell Size**  
Shell sizes are designated by the screw size of mating part which is described in inches multiply by 16. (e.g.) When the screw size of mating part is 1 1/8-18, it is 1 1/8 X 16 =18 of which shell size is 18.  
  
(Available shell size) :  
10SL,12S,14S,16S, 16, 18, 20, 22, 24, 28, 32 and 36.

**Insert Arrangement**  
This is the number allocated to each shell size respectively with its sequential number beginning from number one(1). (However, there are the numbers which are not used.) The insert arrangement number does not show the number of contacts. For example on the insert arrangement 18-10: 18 shows the shell size. 10 shows the insert arrangement. (The number of contacts is 4.) With regard to the insert arrangement, refer to page 4 to page 7.

▶ Insert Arrangement List

Front View of Pin Contact

Number of Contact	1		2			
Insert Arrangement						
Insert Number	20-2	10SL-4	12S-3	14S-9	20-23	32-5
Contact Size	1-#0	2-#16	2-#16	2-#16	2-#8	2-#0
Service Rating	D	A	A	A	A	D
Rated Current	150A	13A	13A	13A	46A	150A

Number of Contact	3						
Insert Arrangement							
Insert Number	10SL-3	14S-1	14S-7	16S-5	16-10	18-5	18-21
Contact Size	3-#16	3-#16	3-#16	3-#16	3-#12	2-#12, 1-#16	3-#12
Service Rating	A	A	A	A	A	D	A
Rated Current	13A	13A	13A	13A	23A	#12 : 23A #16 : 13A	23A

Number of Contact	3			
Insert Arrangement				
Insert Number	18-22	22-2	28-6	36-4
Contact Size	3-#16	3-#8	3-#4	3-#0
Service Rating	D	D	D	D(A) A(BC)
Rated Current	13A	46A	80A	150A

Contact Size Symbol					
	#16	#12	#8	#4	#0
Service Rating	INST	A	D	E	
Rated Voltage AC(r.m.s.)	200	500	900	1,250	
Rated Voltage DC	250	700	1,200	1,750	
Contact Size	#16	#12	#8	#4	#0
MAX Current /Contact	13	23	46	80	150

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▶ Insert Arrangement List

Number of Contact	4					
Insert Arrangement						
Insert Number	14S-2	18-4	18-10	20-4	22-10	22-22
Contact Size	4-#16	4-#16	4-#12	4-#12	4-#16	4-#8
Service Rating	INST	D	A	D	E	A
Rated Current	13A	13A	23A	23A	13A	46A

Number of Contact	4		
Insert Arrangement			
Insert Number	24-22	32-17	36-5
Contact Size	4-#8	4-#4	4-#0
Service Rating	D	D	A
Rated Current	46A	80A	150A

Number of Contact	5					
Insert Arrangement						
Insert Number	14S-5	16S-8	18-11	18-20	32-1	32-2
Contact Size	5-#16	5-#16	5-#12	5-#16	2-#0, 3-#12	3-#4, 2-#16
Service Rating	INST	A	A	A	E(A), D	E
Rated Current	13A	13A	23A	13A	# 0 : 150A #12 : 23A	#4 : 80A #16 : 13A

Number of Contact	6				
Insert Arrangement					
Insert Number	14S-6	18-12	20-17	20-22	36-3
Contact Size	6-#16	6-#16	5-#12, 1-#16	3-#8, 3-#16	3-#0, 3-#12
Service Rating	INST	A	A	A	D
Rated Current	13A	13A	#12 : 23A #16 : 13A	# 8 : 46A #16 : 13A	# 0 : 150A #16 : 23A

Contact Size Symbol	●	⊕	⊗	⊙	⊚
	#16	#12	#8	#4	#0
Service Rating	INST	A	D	E	
Rated Voltage AC(r.m.s.)	200	500	900	1,250	
Rated Voltage DC	250	700	1,200	1,750	
Contact Size	#16	#12	#8	#4	#0
MAX Current /Contact	13	23	46	80	150

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▶ Insert Arrangement List

Number of Contact	7					
Insert Arrangement						
Insert Number	16S-1	20-15	22-28	24-2	24-10	28-10
Contact Size	7-#16	7-#12	7-#12	7-#12	7-#8	2-#4, 2-#8, 3-#12
Service Rating	A	A	A	D	A	D(G), A
Rated Current	13A	23A	23A	23A	46A	#4 : 80A #8 : 46A #12 : 23A

Number of Contact	8			9		
Insert Arrangement						
Insert Number	18-8	20-7	22-23	20-16	20-18	24-11
Contact Size	1-#12, 7-#16	8-#16	8-#12	2-#12, 7-#16	3-#12, 6-#16	3-#8, 6-#12
Service Rating	A	D(ABHG) A(CDEF)	D(H) A	A	A	A
Rated Current	#12 : 23A #16 : 13A	13A	23A	#12 : 23A #16 : 13A	#12 : 23A #16 : 13A	#8 : 46A #12 : 23A

Number of Contact	10		11	14	
Insert Arrangement					
Insert Number	18-1	18-19	24-20	20-27	22-19
Contact Size	10-#16	10-#16	2-#12, 9-#16	14-#16	14-#16
Service Rating	A (BCFG) INST	A	D	A	A
Rated Current	13A	13A	#12 : 23A #16 : 13A	13A	13A

Number of Contact	14	
Insert Arrangement		
Insert Number	28-20	32-9
Contact Size	10-#12, 4-#16	2-#4, 12-#16
Service Rating	A	D
Rated Current	#12 : 23A #16 : 13A	#4 : 80A #16 : 13A

Contact Size Symbol	●	⊕	⊗	⊙	⊕	⊗
	#16	#12	#8	#4	#0	
Service Rating	INST	A	D	E		
Rated Voltage AC(r.m.s)	200	500	900	1,250		
Rated Voltage DC	250	700	1,200	1,750		
Contact Size	#16	#12	#8	#4	#0	
MAX Current /Contact	13	23	46	80	150	

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▶ Insert Arrangement List

Number of Contact	16		17	19	20
Insert Arrangement					
Insert Number	24-5		24-7	20-29	22-14
Contact Size	16-#16		2-#12, 14-#16	17-#16	19-#16
Service Rating	A		A	A	A
Rated Current	13A		#12 : 23A #16 : 13A	13A	13A
Number of Contact	22	24	26	30	
Insert Arrangement					
Insert Number	28-11	24-28	28-12	32-8	
Contact Size	4-#12, 18-#16	24-#16	26-#16	6-#12, 24-#16	
Service Rating	A	INST	A	A	
Rated Current	#12 : 23A #16 : 13A	13A	13A	#12 : 23A #16 : 13A	
Number of Contact	31	35		37	
Insert Arrangement					
Insert Number	36-9	28-15	32-7	28-21	
Contact Size	1-#4, 2-#8, 14-#12, 14-#16	35-#16	7-#12, 28-#16	37-#16	
Service Rating	A	A	INST (ABhj) A	A	
Rated Current	#4 : 80A #8 : 46A #12 : 23A #16 : 13A	13A	#12 : 23A #16 : 13A	13A	
Number of Contact	48	52	54	73	
Insert Arrangement					
Insert Number	36-10	32-414	32A-10	36-73	
Contact Size	48-#16	52-#16	54-#16	73-#16	
Service Rating	A	A	A	A	
Rated Current	13A	13A	13A	13A	

Contact Size Symbol

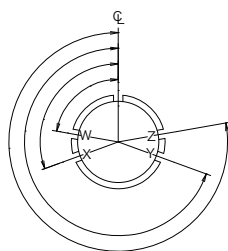
	●	⊕	⊗	⊙	⊚	⊛
	#16	#12	#8	#4	#0	
Service Rating	· · · · ·	INST	A	D	E	
Rated Voltage AC(r.m.s.)	200	500	900	1,250		
Rated Voltage DC	· · ·	250	700	1,200	1,750	
Contact Size	· · · · ·	#16	#12	#8	#4	#0
MAX Current /Contact	· · · · ·	13	23	46	80	150

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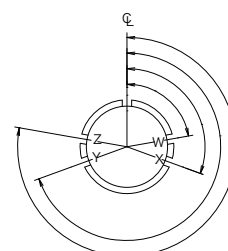
▶ Alternate Insert Position

Number of Contact	Insert Number	Alternate Insert Key			
		W	X	Y	Z
1	20-2	—	—	—	—
2	10SL-4	—	—	—	—
	12S-3	70°	145°	215°	290°
	14S-9	70°	145°	215°	290°
	20-23	35°	110°	250°	325°
	32-5	35°	110°	250°	325°
3	10SL-3	—	—	—	—
	14S-1	—	—	—	—
	14S-7	90°	180°	270°	—
	16S-5	70°	145°	215°	290°
	16-10	90°	180°	270°	—
	18-5	80°	110°	250°	280°
	18-21	—	—	—	—
	18-22	70°	145°	215°	290°
	22-2	70°	145°	215°	290°
	28-6	70°	145°	215°	290°
	36-4	70°	145°	215°	290°
4	14S-2	—	120°	240°	—
	18-4	35°	110°	250°	325°
	18-10	—	120°	240°	—
	20-4	45°	110°	250°	—
	22-10	35°	120°	250°	325°
	22-22	—	110°	250°	—
	24-22	45°	110°	250°	—
	32-17	45°	110°	250°	—
	36-5	—	120°	240°	—
5	14S-5	—	110°	—	—
	16S-8	—	170°	265°	—
	18-11	—	170°	265°	—
	18-20	90°	180°	270°	—
	32-1	80°	110°	250°	280°
	32-2	70°	145°	215°	290°
6	14S-6	—	—	—	—
	18-12	80°	—	—	280°
	20-17	90°	180°	270°	—
	20-22	80°	—	—	280°
	36-3	70°	145°	215°	290°

Number of Contact	Insert Number	Alternate Insert Key			
		W	X	Y	Z
7	16S-1	80°	—	—	280°
	20-15	80°	—	—	280°
	22-28	80°	—	—	280°
	24-2	80°	—	—	280°
	24-10	80°	—	—	280°
	28-10	80°	110°	250°	280°
8	18-8	70°	—	—	290°
	20-7	80°	110°	250°	280°
	22-23	35°	—	—	—
9	20-16	80°	110°	250°	280°
	20-18	35°	110°	250°	325°
	24-11	35°	110°	250°	325°
10	18-1	70°	145°	215°	290°
	18-19	—	120°	240°	—
11	24-20	80°	110°	250°	280°
14	20-27	35°	110°	250°	325°
	22-19	80°	110°	250°	280°
	28-20	80°	110°	250°	280°
	32-9	80°	110°	250°	280°
16	24-5	80°	110°	250°	280°
	24-7	80°	110°	250°	280°
17	20-29	80°	—	—	280°
19	22-14	80°	110°	250°	280°
20	28-16	80°	110°	250°	280°
22	28-11	80°	110°	250°	280°
24	24-28	80°	110°	250°	280°
26	28-12	90°	180°	270°	—
30	32-8	80°	125°	235°	280°
31	36-9	80°	125°	235°	280°
35	28-15	80°	110°	250°	280°
	32-7	80°	125°	235°	280°
37	28-21	80°	110°	250°	280°
48	36-10	80°	125°	235°	280°
52	32-414	80°	110°	250°	280°
54	32A-10	—	—	—	—
73	36-73	80°	110°	250°	280°



Front View of Pin Insert



Front View of Socket Insert

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## ▶ Insert Arrangement List

● symbol means both pin and receptacle contacts are available

Insert No.	Number of Contact	Service Rating	Contact Size					Receptacle			Plug		
			#0	#4	#8	#12	#16	D/MS 3100A	D/MS 3101A	D/MS 3102A	D/MS 3106A	D/MS 3106B	D/MS 3108B
10SL-3	3	A					3			Pin insert only	Socket insert only		
10SL-4	2	A					2			Pin insert only	Socket insert only		
12S-3	2	A					2	●	●	●	●	●	●
14S-1	3	A					3	●	●	●	●	●	●
14S-2	4	INST					4	●	●	●	●	●	●
14S-5	5	INST					5	●	●	●	●	●	●
14S-6	6	INST					6	●	●	●	●	●	●
14S-7	3	A					3	●	●	●	●	●	●
14S-9	2	A					2	●	●	●	●	●	●
16S-1	7	A					7	●	●	●	●	●	●
16S-5	3	A					3	●	●	●	●	●	●
16S-8	5	A					5	●	●	●	●	●	●
16-10	3	A				3		●	●	●	●	●	●
18-1	10	A				4		●	●	●	●	●	●
		INST				6		●	●	●	●	●	●
18-4	4	D				4		●	●	●	●	●	●
18-5	3	D				2	1	●	●	●	●	●	●
18-8	8	A				1	7	●	●	●	●	●	●
18-10	4	A				4		●	●	●	●	●	●
18-11	5	A				5		●	●	●	●	●	●
18-12	6	A					6	●	●	●	●	●	●
18-19	10	A					10	●	●	●	●	●	●
18-20	5	A					5	●	●	●	●	●	●
18-21	3	A				3		●	●	●	●	●	●
18-22	3	D					3	●	●	●	●	●	●
20-2	1	D	1					●	●	●	●	●	●
20-4	4	D				4		●	●	●	●	●	●
20-7	8	D				4		●	●	●	●	●	●
		A				4		●	●	●	●	●	●
20-15	7	A				7		●	●	●	●	●	●
20-16	9	A				2	7	●	●	●	●	●	●
20-17	6	A				5	1	●	●	●	●	●	●
20-18	9	A				3	6	●	●	●	●	●	●
20-22	6	A			3		3	●	●	●	●	●	●
20-23	2	A			2			●	●	●	●	●	●
20-27	14	A					14	●	●	●	●	●	●
20-29	17	A					17	●	●	●	●	●	●
22-2	3	D			3			●	●	●	●	●	●
22-10	4	E					4	●	●	●	●	●	●
22-14	19	A					19	●	●	●	●	●	●
22-19	14	A					14	●	●	●	●	●	●
22-22	4	A			4			●	●	●	●	●	●
22-23	8	D				1		●	●	●	●	●	●
		A				7		●	●	●	●	●	●
22-28	7	A				7		●	●	●	●	●	●

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 Insert Arrangement List

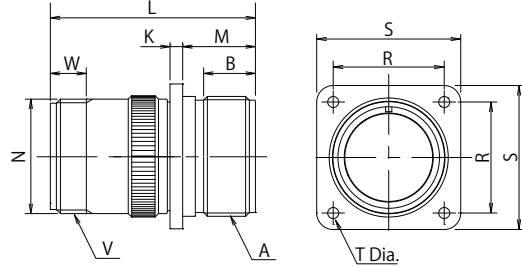
Insert No.	Number of Contact	Service Rating	Contact Size					Receptacle			Plug		
			#0	#4	#8	#12	#16	D/MS 3100A	D/MS 3101A	D/MS 3102A	D/MS 3106A	D/MS 3106B	D/MS 3108B
24-2	7	D				7		●	●	●	●	●	●
24-5	16	A					16	●	●	●	●	●	●
24-7	16	A				2	14	●	●	●	●	●	●
24-10	7	A			7			●	●	●	●	●	●
24-11	9	A			3	6		●	●	●	●	●	●
24-20	11	D				2	9	●	●	●	●	●	●
24-22	4	D			4			●	●	●	●	●	●
24-28	24	INST					24	●	●	●	●	●	●
28-6	3	D		3				●	●	●	●	●	●
28-10	7	D				1		●	●	●	●	●	●
		A		2	2	2							
28-11	22	A				4	18	●	●	●	●	●	●
28-12	26	A					26	●	●	●	●	●	●
28-15	35	A					35	●	●	●	●	●	●
28-16	20	A					20	●	●	●	●	●	●
28-20	14	A				10	4	●	●	●	●	●	●
28-21	37	A					37	●	●	●	●	●	●
32-1	5	E				1		●	●	●	●	●	●
		D	2			2							
32-2	5	E		3			2	●	●	●	●	●	●
32-5	2	D	2					●	●	●	●	●	●
32-7	35	A				7	24	●	●	●	●	●	●
		INST					4						
32-8	30	A				6	24	●	●	●	●	●	●
32-9	14	D		2			12	●	●	●	●	●	●
32A-10	54	A					54	●	●	●	●	●	●
32-17	4	D		4				●	●	●	●	●	●
32-414	52	A					52	●	●	●	●	●	●
36-3	6	D	3				3	●	●	●	●	●	●
36-4	3	D	1					●	●	●	●	●	●
		A	2										
36-5	4	A	4					●	●	●	●	●	●
36-9	31	A		1	2	14	14	●	●	●	●	●	●
36-10	48	A					48	●	●	●	●	●	●
36-73	73	A					73	●	●	●	●	●	●

Note : The insert numbers of 10SL-3 and 10SL-4 are available with the following four(4) part numbers only,  
 D/MS3106A10SL-3S    D/MS3102A10SL-3P  
 D/MS3106A10SL-4S    D/MS3102A10SL-4P

▶ Wall Mount Receptacle

D/MS3100A18-10PY (62)

① Connector Style	3100A Wall Mount Receptacle
② Shell Size	12S, 14S, 16S, 16, 18, 20, 22, 24, 28, 32, 36
③ Insert Arrangement	Refer to page 9 – page 10.
④ Contact Type	P : Pin Contact, S : Socket Contact
⑤ Alternate Key Positions	Omit : Standard Position, W,X,Y,Z : Refer to page 8.
⑥ Deviation	Omit : Silver Plated Contacts (Standard) (62) : Gold Plated Contacts (0.5 μ m AU over Ni)

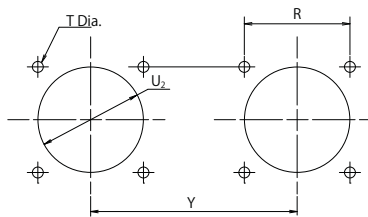


D/MS3100A is a receptacle connector which is mounted on the panel or the chassis with the cable terminated on the backend. This can mate with all of D/MS plug connectors.

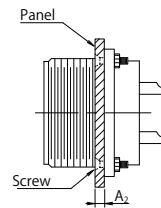
◎ Cable clamp (D/MS3057- □□ A) is available.

Shell Size	A	B Min. FullThread	K±0.5	L Max.	M <sup>+0.78</sup> / <sub>0</sub>	φ N±0.5	R±0.12	S±0.5	φ T <sup>+0.25</sup> / <sub>-0.12</sub> Dia.	V	W Min. Full Thread
12S	3/4-20UNEF	9.60	2.00	37.49	14.48	19.9	20.62	27.80	3.05	5/8-24UNEF	9.53
14S	7/8-20UNEF	9.53	2.00	37.49	14.48	22.3	23.01	30.20	3.02	3/4-20UNEF	9.65
16S	1-20UNEF	9.53	2.00	37.30	14.47	25.6	24.60	32.54	3.05	7/8-20UNEF	9.53
16	1-20UNEF	15.88	3.35	47.89	19.25	25.6	24.61	32.54	3.05	7/8-20UNEF	9.53
18	1 1/8-18UNEF	15.88	3.35	51.06	19.24	28.6	26.99	34.92	2.93	1-20UNEF	9.53
20	1 1/4-18UNEF	15.88	3.35	54.25	19.24	31.9	29.37	38.10	2.93	1 3/16-18UNEF	9.53
22	1 3/8-18UNEF	15.88	3.35	54.24	19.20	34.9	31.75	41.27	3.05	1 3/16-18UNEF	9.53
24	1 1/2-18UNEF	15.88	3.35	57.36	20.80	38.2	34.93	44.45	3.61	1 7/16-18UNEF	9.53
28	1 3/4-18UNS	15.88	3.35	57.36	20.80	44.5	39.67	50.80	3.61	1 7/16-18UNEF	9.53
32	2-18UNS	15.88	3.35	60.56	22.40	51.4	44.45	56.90	4.27	1 3/4-18UNS	11.13
36	2 1/4-16UN	15.88	3.35	60.50	22.42	57.1	49.20	63.50	4.40	2-18UNS	12.70

Panel Mounting Dimension



Rear Mounting



Shell Size	Y	R±0.13	T <sup>+0.78</sup> / <sub>0</sub>	U2 (Min.)	A2	Panel Mounting Screw(Ref)	F Gasket
12S	50	20.62	3.05	19.8	3.0	M3	P-100841-12
14S	53	23.01	3.05	23.0	3.0	M3	P-100841-14
16S, 16	56	24.61	3.05	26.1	3.0	M3	P-100841-16
18	59	26.97	3.05	29.3	3.0	M3	P-100841-18
20	62	29.36	3.05	32.5	3.0	M3	P-100841-20
22	70	31.75	3.05	35.7	3.0	M3	P-100841-22
24	73	34.92	3.75	38.8	3.0	M3.5	P-100841-24
28	80	36.67	3.75	45.2	3.0	M3.5	P-100841-28
32	86	44.45	4.40	51.5	3.0	M4	P-100841-32
36	92	49.23	4.40	57.9	3.0	M4	P-100841-36

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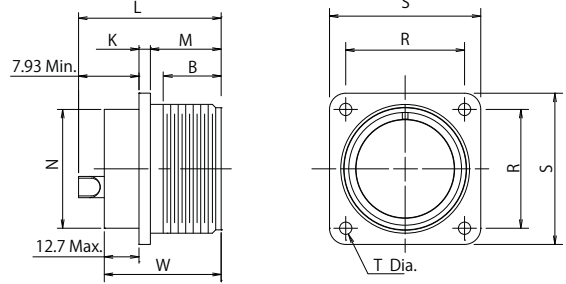
▶ Box Mount Receptacle

**D/MS3102A18-10PY (62)**

① ② ③ ④ ⑤ ⑥



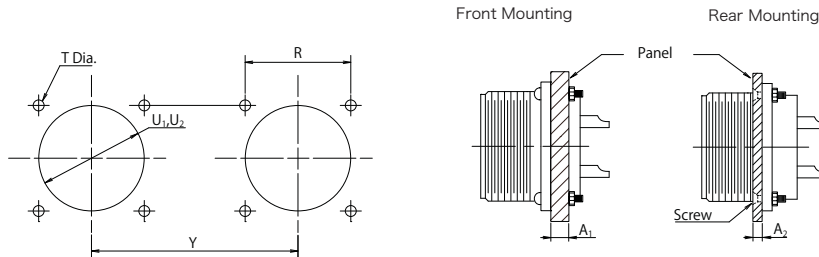
① Connector Style	3102A Box Mount Receptacle
② Shell Size	10SL, 12S, 14S, 16S, 16, 18, 20, 22, 24, 28, 32, 36
③ Insert Arrangement	Refer to page 9 – page 10.
④ Contact Type	P : Pin Contact, S : Socket Contact
⑤ Alternate Key Positions	Omit : Standard Position, W,X,Y,Z : Refer to page 8.
⑥ Deviation	Omit : Silver Plated Contacts (Standard) (62) : Gold Plated Contacts (0.5 μm AU over Ni)



D/MS3102A is a receptacle connector which is mounted on the panel or the chassis with the cable terminated on the backend. This can mate with all of D/MS plug connectors.

Shell Size	A	B (Min.)	K±0.5	L (Max.)	M <sup>+0.78</sup> <sub>0</sub>	φ N±0.5	R±0.12	S±0.5	φ T <sup>+0.25</sup> <sub>-0.12</sub>	W±0.5
10SL	5/8-24UNEF	9.53	2.1	30.25	14.50	15.75	18.26	25.40	3.05	21.9
12S	3/4-20UNEF	9.53	2.1	30.25	14.48	17.02	20.62	27.80	3.05	24.0
14S	7/8-20UNEF	9.53	2.1	30.25	14.48	19.05	23.02	30.20	2.93	24.0
16S	1-20UNEF	9.53	2.1	30.25	14.47	22.22	24.60	32.54	3.05	24.0
16	1-20UNEF	15.90	3.2	44.45	19.25	22.22	24.61	32.54	3.05	34.4
18	1 1/8-18UNEF	15.90	3.2	49.22	19.24	25.40	26.99	34.92	3.05	34.4
20	1 1/4-18UNEF	15.90	3.2	49.22	19.24	28.57	29.37	38.10	3.05	34.4
22	1 3/8-18UNEF	15.90	3.2	49.22	19.00	31.75	31.75	41.27	3.05	34.4
24	1 1/2-18UNEF	15.90	3.2	49.22	20.80	34.92	34.93	44.45	3.61	34.4
28	1 3/4-18UNS	15.90	3.2	49.22	20.80	41.27	39.67	50.80	3.61	34.4
32	2-18UNS	15.90	3.2	49.22	22.40	48.42	44.45	56.90	4.27	36.7
36	2 1/4-16UN	15.90	3.2	49.22	22.42	53.97	49.20	63.50	4.40	36.7

**Panel Mounting Dimension**



Shell Size	Y	R±0.13	T <sup>+0.25</sup> <sub>-0.12</sub>	U1 (Min.)	U2 (Min.)	A1	A2	Panel Mounting Screw(Ref)	R Gasket	F Gasket
10SL	47	18.26	3.05	16.8	16.6	10	3.0	M3	P-100842-10SL	P-100841-10SL
12S	50	20.62	3.05	18.4	19.8	10	3.0	M3	P-100842-12	P-100841-12
14S	53	23.01	3.05	20.0	23.0	10	3.0	M3	P-100842-14	P-100841-14
16S, 16	56	24.61	3.05	23.1	26.1	10	3.0	M3	P-100842-16	P-100841-16
18	59	26.97	3.05	26.4	29.3	10	3.0	M3	P-100842-18	P-100841-18
20	62	29.36	3.05	29.5	32.5	10	3.0	M3	P-100842-20	P-100841-20
22	70	31.75	3.05	32.7	35.7	10	3.0	M3	P-100842-22	P-100841-22
24	73	34.92	3.75	35.9	38.8	10	3.0	M3.5	P-100842-24	P-100841-24
28	80	39.67	3.75	42.2	45.2	10	3.0	M3.5	P-100842-28	P-100841-28
32	86	44.45	4.40	49.3	51.5	10	3.0	M4	P-100842-32	P-100841-32
36	92	49.23	4.40	54.9	57.9	10	3.0	M4	P-100842-36	P-100841-36

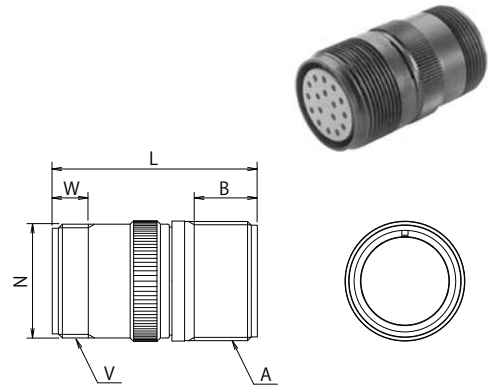
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▶ Cable Receptacle

**D/MS3101A18-10PY (62)**

① Connector Style	3101A Cable Receptacle
② Shell Size	12S, 14S, 16S, 16, 18, 20, 22, 24, 28, 32, 36
③ Insert Arrangement	Refer to page 9 – page 10.
④ Contact Type	P : Pin Contact, S : Socket Contact
⑤ Alternate Key Positions	Omit : Standard Position, W,X,Y,Z : Refer to page 8.
⑥ Deviation	Omit : Silver Plated Contacts (Standard) (62) : Gold Plated Contacts (0.5 μm AU over Ni)

D/MS3101A is a cable receptacle connector (in-line receptacle connector), which is not mounted on the panel, to be used for connecting the cable with the cable. This can mate with all of D/MS plug connectors.



◎ Cable clamp(D/MS3057- □□ A)is available.

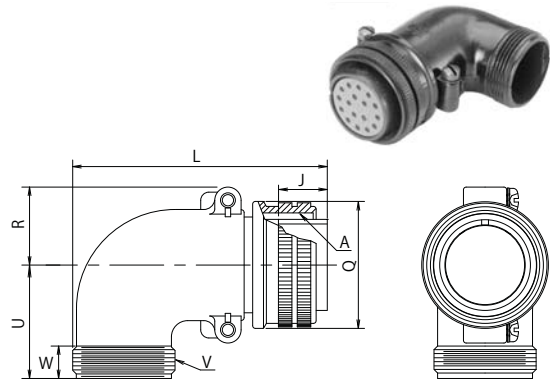
Shell Size	A	B (Min.)	L±1.5	φ N±0.5	V	W Min. Full Thread
12S	3/4-20UNEF	9.53	37.49	19.90	5/8-24UNEF	9.53
14S	7/8-20UNEF	9.53	37.49	22.30	3/4-20UNEF	9.53
16S	1-20UNEF	9.53	37.30	25.60	7/8-20UNEF	9.53
16	1-20UNEF	16.70	47.89	25.60	7/8-20UNEF	9.53
18	1 1/8-18UNEF	16.70	51.09	28.60	1-20UNEF	9.53
20	1 1/4-18UNEF	16.70	54.25	31.90	1 3/16-18UNEF	9.53
22	1 3/8-18UNEF	16.70	54.24	34.90	1 3/16-18UNEF	9.53
24	1 1/2-18UNEF	16.70	57.36	38.20	1 7/16-18UNEF	9.53
28	1 3/4-18UNS	16.70	57.36	44.50	1 7/16-18UNEF	9.53
32	2-18UNS	16.70	60.56	51.40	1 3/4-18UNS	11.13
36	2 1/4-16UN	16.70	60.50	57.10	2-18UNS	12.70

▶ Right Angle Plug(Split Backshell)

**D/MS3108B18-10PY (62)**

① Connector Style	3108B Right Angle Receptacle (Split Backshell)
② Shell Size	12S, 14S, 16S, 16, 18, 20, 22, 24, 28, 32, 36
③ Insert Arrangement	Refer to page 9 – page 10.
④ Contact Type	P : Pin Contact, S : Socket Contact
⑤ Alternate Key Positions	Omit : Standard Position, W,X,Y,Z : Refer to page 8.
⑥ Deviation	Omit : Silver Plated Contacts (Standard) (62) : Gold Plated Contacts (0.5 μm AU over Ni)

D/MS3108B is a 90° angle plug connector with split back shells. This connector can mate with all of D/MS receptacle connectors.



◎ Cable clamp(D/MS3057- □□ A)is available.

Shell Size	A	J±0.12	L (Min.)	φ Q <sup>0</sup> -0.38	R±0.5	U±0.5	V	W Min. Full Thread
12S	3/4-20UNEF	13.49	50.80	25.40	10.50	25.4	5/8-24UNEF	9.53
14S	7/8-20UNEF	13.49	53.97	28.57	16.60	27.0	3/4-20UNEF	9.53
16S	1-20UNEF	13.49	60.32	31.75	18.50	28.6	7/8-20UNEF	9.53
16	1-20UNEF	18.26	65.07	31.75	18.50	28.6	7/8-20UNEF	9.53
18	1 1/8-18UNEF	18.26	68.75	34.13	20.69	30.2	1-20UNEF	9.53
20	1 1/4-18UNEF	18.26	76.98	37.28	22.92	33.3	1 3/16-18UNEF	9.53
22	1 3/8-18UNEF	18.26	76.98	40.48	24.51	33.3	1 3/16-18UNEF	9.53
24	1 1/2-18UNEF	18.26	86.51	43.63	26.10	36.5	1 7/16-18UNEF	9.53
28	1 3/4-18UNS	18.26	86.51	50.00	29.27	36.5	1 7/16-18UNEF	9.53
32	2-18UNS	18.26	95.25	56.33	32.84	44.4	1 3/4-18UNS	11.13
36	2 1/4-16UN	18.26	100.00	62.68	36.00	49.2	2-18UNS	12.70

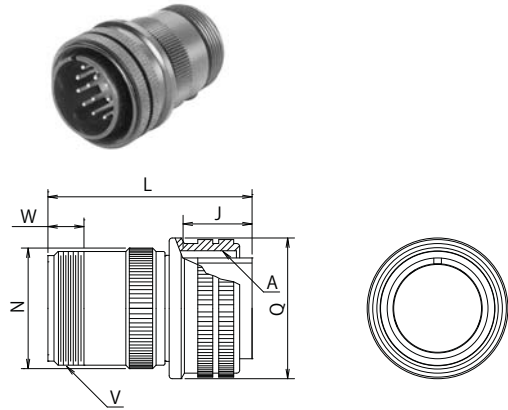
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▶ Straight Plug (Solid Shell)

D/MS3106A18-10PY (62)

① Connector Style	3106A Straight Plug
② Shell Size	10SL, 12S, 14S, 16S, 16, 18, 20, 22, 24, 28, 32, 36
③ Insert Arrangement	Refer to page 9 – page 10.
④ Contact Type	P : Pin Contact, S : Socket Contact
⑤ Alternate Key Positions	Omit: Standard Position, W,X,Y,Z : Refer to page 8.
⑥ Deviation	Omit : Silver Plated Contacts (Standard) (62) : Gold Plated Contacts (0.5 μm AU over Ni)

D/MS3106A type is a plug connector which is straight to relay another receptacle connector. This plug connector can mate with all of D/MS receptacle connectors.



◎ Cable clamp (D/MS3057- □□ A) is available.

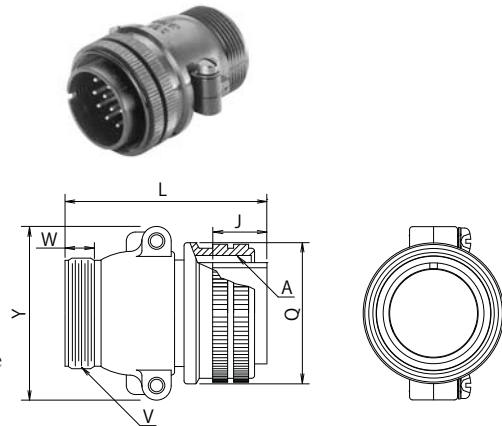
Shell Size	A	J±0.12	L±0.5	φ Q <sup>0</sup> <sub>-0.38</sub>	φ N±0.5	V	W Min. Full Thread
10SL	5/8-24UNEF	13.49	33.76	22.22	19.12	5/8-24UNEF	9.53
12S	3/4-20UNEF	13.49	36.49	25.40	19.90	5/8-24UNEF	9.53
14S	7/8-20UNEF	13.49	36.49	28.57	22.30	3/4-20UNEF	9.53
16S	1-20UNEF	13.49	36.49	31.75	25.60	7/8-20UNEF	9.53
16	1-20UNEF	18.26	47.64	31.75	25.60	7/8-20UNEF	9.53
18	1 1/8-18UNEF	18.26	50.81	34.13	28.60	1-20UNEF	9.53
20	1 1/4-18UNEF	18.26	54.00	37.28	31.90	1 3/16-18UNEF	9.53
22	1 3/8-18UNEF	18.26	53.98	40.48	34.90	1 3/16-18UNEF	9.53
24	1 1/2-18UNEF	18.26	57.14	43.63	38.20	1 7/16-18UNEF	9.53
28	1 3/4-18UNS	18.26	57.14	50.00	44.50	1 7/16-18UNEF	9.53
32	2-18UNS	18.26	60.31	56.33	51.40	1 3/4-18UNS	11.13
36	2 1/4-16UN	18.26	60.31	62.68	57.10	2-18UNS	12.70

▶ Straight Plug (Split Backshell)

D/MS3106B18-10PY (62)

① Connector Style	3106B: Straight Backshell (Split Backshell)
② Shell Size	12S, 14S, 16S, 16, 18, 20, 22, 24, 28, 32, 36
③ Insert Arrangement	Refer to page 9 – page 10.
④ Contact Type	P : Pin Contact, S : Socket Contact
⑤ Alternate Key Positions	Omit: Standard Position, W,X,Y,Z : Refer to page 8.
⑥ Deviation	Omit : Silver Plated Contacts (Standard) (62) : Gold Plated Contacts (0.5 μm AU over Ni)

D/MS3106B is a straight plug connector with split backshells. This is used for applications where soldering and inspection is the prime requirement due to the split backshell.



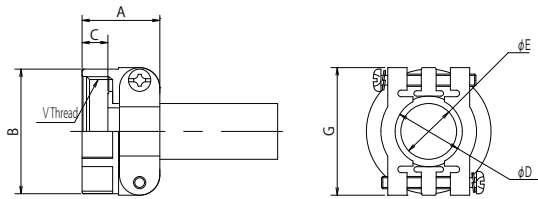
◎ Cable clamp (D/MS3057- □□ A) is available.

Shell Size	A	J±0.12	L (Min.)	φ Q <sup>0</sup> <sub>-0.38</sub>	V	W (Min.)	Y (Max.)
12S	3/4-20UNEF	13.49	42.29	25.40	5/8-24UNEF	9.53	27
14S	7/8-20UNEF	13.49	43.39	28.57	3/4-20UNEF	8.00	30
16S	1-20UNEF	13.49	42.88	31.75	7/8-20UNEF	8.50	32
16	1-20UNEF	18.26	42.88	31.75	7/8-20UNEF	8.50	32
18	1 1/8-18UNEF	18.26	53.07	34.13	1-20UNEF	9.53	42
20	1 1/4-18UNEF	18.26	55.57	37.28	1 3/16-18UNEF	9.53	47
22	1 3/8-18UNEF	18.26	55.57	40.48	1 3/16-18UNEF	9.53	50
24	1 1/2-18UNEF	18.26	58.72	43.63	1 7/16-18UNEF	9.53	53
28	1 3/4-18UNS	18.26	58.72	50.00	1 7/16-18UNEF	9.53	59
32	2-18UNS	18.26	61.92	56.33	1 3/4-18UNS	11.13	66
36	2 1/4-16UN	18.26	61.92	62.68	2-18UNS	12.70	73

◎ Specifications and/or dimensions in this catalog are subject to change without notice.  
Your checking the latest specifications with our drawings would be highly appreciated.

## ▶ Cable Clamp

### D/MS3057- □ □ A

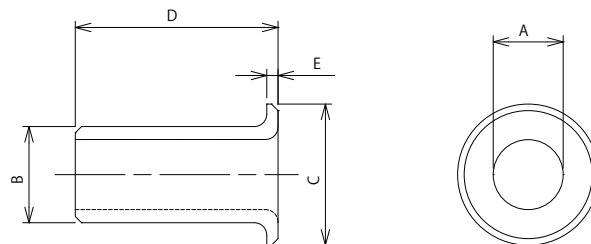


D/MS3057- □ □ A is an accessory which is used together with a backshell to fasten the cable. The cable is fixed in the center of the cable clamp for sure since the cable is fixed from both directions with two pieces of the metal clamps and the screws. The jacketed cable can be used with this cable clamp as well because a rubber bushing shown on the table below is inserted.

Part Number	Shell Size	A±0.7	B±0.7	C	D	E	G±0.7	V	Bushing Part Number
D/MS3057-4A	10SL,12S	20.6	20.6	10.3	7.9	5.6	22.2	5/8-24UNEF	AN3420-4
D/MS3057-6A	14S	22.2	24.6	10.3	11.2	7.9	27.0	3/4-20UNEF	AN3420-6
D/MS3057-8A	16S,16	23.8	27.8	10.3	14.3	11.1	29.4	7/8-20UNEF	AN3420-8
D/MS3057-10A	18	23.8	30.1	10.3	15.9	14.3	31.7	1-20UNEF	AN3420-10
D/MS3057-12A	20,22	23.8	35.0	10.3	19.0	15.9	37.3	1 3/16-18UNEF	AN3420-12
D/MS3057-16A	24,28	26.2	42.1	10.3	23.8	19.1	42.9	1 7/16-18UNEF	AN3420-16
D/MS3057-20A	32	27.8	51.6	10.3	31.7	23.8	51.6	1 3/4-18UNS	AN3420-20
D/MS3057-24A	36	29.4	56.4	10.3	34.9	31.8	58.0	2-18UNS	AN3420-24

## ▶ Rubber Bushing

### AN3420- □ □

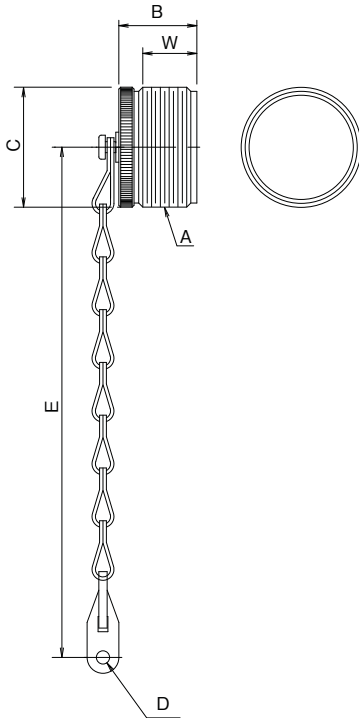


AN3420- □ □ is an accessory which is designed to tighten the cable. When you need thinner cable, you can duplicate or triplicate the rubber bushings.

Part Number	φ A	φ B	φ C	D±0.7	E
AN3420-4	5.6	7.7	14.5	69.8	2.3
AN3420-6	7.9	10.8	17.5	66.7	2.3
AN3420-8	11.1	14.0	20.8	63.5	2.3
AN3420-10	14.3	15.6	23.7	60.3	2.3
AN3420-12	15.9	18.8	28.2	57.2	2.3
AN3420-16	19.1	23.5	35.0	54.0	2.9
AN3420-20	23.8	31.5	42.8	50.8	2.9
AN3420-24	31.8	34.7	48.8	47.6	2.9

## ▶ Cap and Chain for Plug

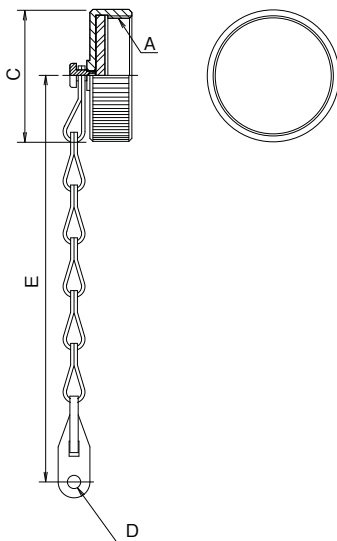
### D/MS25042- □□ DK



Part Number	Applicable Shell Size	A	B	$\phi$ C	$\phi$ D	E	W
D/MS25042-10DK	10SL	5/8-24UNEF	15.9	17.4	3.9	101	8.4
D/MS25042-12DK	12S	3/4-20UNEF	20.7	20.6	3.9	114	12.4
D/MS25042-14DK	14S	7/8-20UNEF	20.7	23.8	3.9	114	12.4
D/MS25042-16DK	16S, 16	1-20UNEF	20.7	27.0	3.9	114	12.4
D/MS25042-18DK	18	1 1/8-18UNEF	20.7	30.1	3.9	114	12.4
D/MS25042-20DK	20	1 1/4-18UNEF	20.7	33.6	4.7	127	12.4
D/MS25042-22DK	22	1 3/8-18UNEF	20.7	36.5	4.7	127	12.4
D/MS25042-24DK	24	1 1/2-18UNEF	20.7	39.7	4.7	140	12.4
D/MS25042-28DK	28	1 3/4-18UNS	20.7	46.0	4.7	197	12.4
D/MS25042-32DK	32	2-18UNS	20.7	52.4	5.5	190	12.4
D/MS25042-36DK	36	2 1/4-16UN	20.7	58.7	5.5	190	12.4

## ▶ Cap and Chain for Receptacle

### D/MS25043- □□ DK



Part Number	Applicable Shell Size	A	B	$\phi$ C	$\phi$ D	E
D/MS25043-10DK	10SL	5/8-24UNEF	11.1	20.7	3.5	101
D/MS25043-12DK	12S	3/4-20UNEF	11.1	25.4	3.5	114
D/MS25043-14DK	14S	7/8-20UNEF	11.1	28.6	3.5	114
D/MS25043-16DK	16S, 16	1-20UNEF	11.1	30.2	3.5	114
D/MS25043-18DK	18	1 1/8-18UNEF	11.1	34.1	3.5	114
D/MS25043-20DK	20	1 1/4-18UNEF	11.1	37.3	3.5	127
D/MS25043-22DK	22	1 3/8-18UNEF	11.1	40.5	3.5	127
D/MS25043-24DK	24	1 1/2-18UNEF	11.1	43.7	4.3	140
D/MS25043-28DK	28	1 3/4-18UNS	11.1	50.0	4.3	197
D/MS25043-32DK	32	2-18UNS	11.1	56.4	4.7	197
D/MS25043-36DK	36	2 1/4-16UN	11.1	62.7	4.7	197

A cap and chain is designed to cover the mating face from dust to avoid electrical trouble.  
The moistureproof gasket is attached to the cap and chain (D/MS25043- □□ DK)

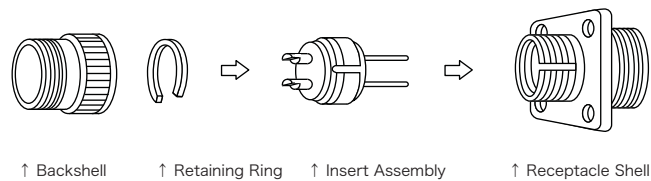


## ▶ ASSEMBLY INSTRUCTION

## How to Assemble the Connectors

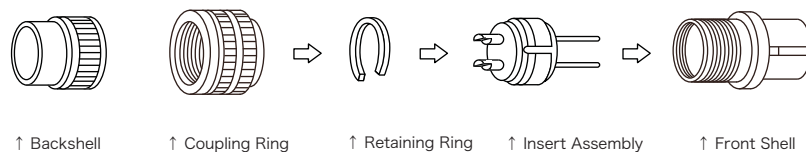
## 1. D/MS3100A, D/MS3101A, D/MS3102A

Firstly insert the insert assembly with the contacts into the shell after matching the key of the receptacle shell with the key groove of the insert assembly. Secondly install the retaining ring into the retaining ring groove of the receptacle shell. After installing the retaining ring, make sure that the outer circumference of the retaining ring is fixed firmly in the groove of the shell over the entire circumference. In case the retaining ring is not fixed precisely, the retaining ring may come off from the shell by the force of mating the connectors. Finally, install the backshell to the cable side of the receptacle shell for D/MS3100A and D/MS3101A.



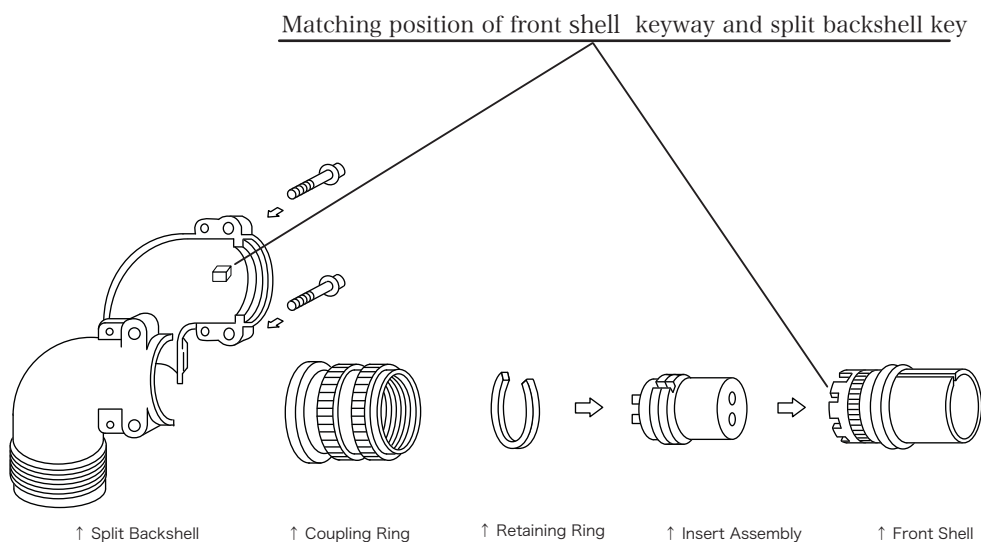
## 2. D/MS3106A

Firstly insert the insert assembly into the front shell. Secondly install the retaining ring into the front shell. Thirdly, install the coupling ring. Finally, install the backshell to the cable side of the front shell. Do the same way as the above position 1 regarding how to install the insert assembly and the retaining ring.



## 3. D/MS3106B, D/MS3108B

Firstly insert the insert assembly into the front shell. Secondly install the retaining ring into the front shell. Thirdly, install the coupling ring. Finally, install the split backshells to the cable side of the front shell. Tighten the screws after making sure that the keyways of the front shell and the keys of the backshells are on the same line when installing the backshells, otherwise the backshells might be damaged. Do the same way as the above position 1 regarding how to install the insert assembly and the retaining ring.



## ▶ WIRING INSTRUCTION

### \*\* Soldering

Pre-solder the solder cups before you solder the wire.

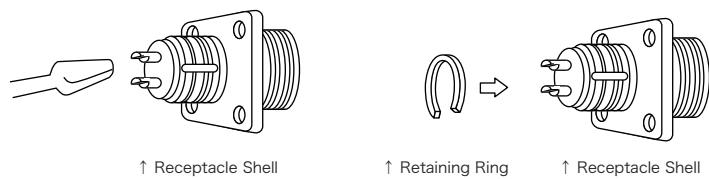
Solder the wire quickly to prevent the flux and the solder from flowing out of the solder cups.

### \*\* How to remove the retaining ring

Insert the thin tip such like that of a screwdriver into the notch of the shell. Remove the retaining ring carefully with it so as for the ring not to pop out while you put the finger on it lightly.

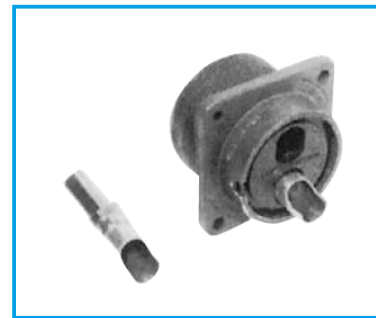
### \*\* How to install the retaining ring

Insert one end of the retaining ring into the groove of the shell. Then push the other end of the retaining ring into the groove of the shell by the tip such like that of a screwdriver while you compress the ring slightly.



Remove the retaining ring.

Fasten the retaining ring.



### 〈How to wire connector〉

Regarding the connectors which have backshells, D/MS3100A, D/MS3101A, D/MS3106A, D/MS3106B and D/MS3108B types, refer to diagram on the page 17. Remove the backshell and the coupling ring. Thread the cable into the backshell and the cable clamp before soldering.

After the soldering, screw the backshell first and the cable clamp secondly. Be careful to tighten the screws of the cable clamp not to press the soldering contacts.

When the cable is too thin to fasten tightly, duplicate or triplicate the rubber bushing, AN3420-□□.

### 〈Soldering thick contacts〉

Since #0, #4 and #8 sizes contacts take longer time to solder, the insert assembly which made of resin may be damaged by high temperature.

To avoid this trouble, we recommend that the contacts be removed from the insert assembly and solder each contacts. Firstly, remove the retaining ring and pull out the insert assembly from the shell. Secondly, float the rear insert to pull out a contact with rotating it by hand.

On inserting the contacts, do it reverse order.

### ※ Caution

When you check the electrical continuity, use a mating half connector.

In case of mating other conductors such as a clip it causes the trouble surface finish, retaining tension, and deteriorate.