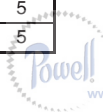


MS/Standard insert arrangements

Insert Arrangement	Service Rating	Total Contacts	Contact Size				
			0	4	8	12	16
8S-1	A	1					1
10S-2	A	1					1
10SL-3	A	3					3
10SL-4†	A	2					2
12S-3	A	2					2
12S-4	D	1					1
12-5	D	1				1	
14S-1	A	3					3
14S-2	Inst.	4					4
14S-4	D	1					1
14S-5	Inst.	5					5
14S-6	Inst.	6					6
14S-7	A	3					3
14S-9	A	2					2
14S-10	Inst.	4					4
14S-12	A	3					3
14-3	A	1			1		
16S-1	A	7					7
16S-3	B	1					1
16S-4	D	2					2
16S-5	A	3					3
16S-6	A	3					3
16S-8	A	5					5
16-2	E	1				1	
16-7	A	3			1		2
16-9	A	4				2	2
16-10	A	3				3	
16-11	A	2				2	
16-12	A	1		1			
16-13	A	2				2	
18-1	A/Inst.	10					10
18-3	D	2				2	
18-4	D	4					4
18-5	D	3				2	1
18-6	D	1		1			
18-7	B	1			1		
18-8	A	8				1	7
18-9	Inst.	7				2	5
18-10	A	4				4	
18-11	A	5				5	
18-12	A	6					6
18-13	A	4			1	3	
18-14	A	2		1			1
18-15	A	4				4	
18-16	C	1				1	
18-17	Inst.	7				2	5
18-19	A	10					10
18-20	A	5					5
18-22	D	3					3
18-24	A/Inst.	10					10
18-29	A	5					5
18-30	A	5					5

Insert Arrangement	Service Rating	Total Contacts	Contact Size				
			0	4	8	12	16
18-31	A	5					5
20-2	D	1	1				
20-3	D	3				3	
20-4	D	4				4	
20-6	D	3					3
20-7	D/A	8					8
20-8	Inst.	6			2		4
20-9	D/A	8				1	7
20-11	Inst.	13					13
20-12	A	2		1			1
20-14	A	5			2	3	
20-15	A	7				7	
20-16	A	9				2	7
20-17	A	6				5	1
20-18	A	9				3	6
20-19	A	3			3		
20-20	A	4		1		3	
20-21	A	9				1	8
20-22	A	6			3		3
20-23	A	2			2		
20-24	A	4			2		2
20-25	Inst.	13					13
20-27	A	14					14
20-29	A	17					17
20-30	Inst.	13					13
20-33	A	11					11
22-1	D	2			2		
22-2	D	3			3		
22-4	A	4			2	2	
22-5	D	6				2	4
22-6	D	3			2		1
22-7	E	1	1				
22-8	E	2				2	
22-9	E	3				3	
22-10	E	4					4
22-11	B	2					2
22-12	D	5			2		3
22-13	D/A	5				4	1
22-14	A	19					19
22-15	E/A	6				5	1
22-16	A	9				3	6
22-17	D/A	9				1	8
22-18	D/A	8					8
22-19	A	14					14
22-20	A	9					9
22-21	A	3	1				2
22-22	A	4			4		
22-23	D/A	8				8	
22-24	D/A	6				2	4
22-27	D/A	9			1		8
22-28	A	7				7	



† 10SL-4 arrangement available only with pin contacts in receptacle and socket contacts in plug

MS/Standard








insert arrangements, cont.








Insert Arrangement	Service Rating	Total Contacts	Contact Size				
			0	4	8	12	16
22-33	D/A	7					7
22-34	D	5				3	2
22-36	D/A	8				8	
24-2	D	7				7	
24-3	D	7				2	5
24-5	A	16					16
24-6	D/A	8				8	
24-7	A	16				2	14
24-9	A	2		2			
24-10	A	7			7		
24-11	A	9			3	6	
24-12	A	5		2		3	
24-16	D/A	7			1	3	3
24-17	D	5				2	3
24-20	D	11				2	9
24-21	D	10			1		9
24-22	D	4			4		
24-27	E	7					7
24-28	Inst.	24					24
28-1	D/A	9			3	6	
28-2	D	14				2	12
28-3	E	3			3		
28-4	E/D	9				2	7
28-5	D	5		2		1	2
28-6	D	3		3			
28-7	D	2		2			
28-8	E/D/A	12				2	10
28-9	D	12				6	6
28-10	D/A	7		2	2	3	
28-11	A	22				4	18
28-12	A	26					26
28-13	A	26					26
28-15	A	35					35
28-16	A	20					20
28-17	B/D/A	15					15
28-18	C/D/A/Inst.	12					12
28-19	B/D/A	10				4	6
28-20	A	14				10	4
28-21	A	37					37
28-22	D	6		3			3







Insert Arrangement	Service Rating	Total Contacts	Contact Size				
			0	4	8	12	16
32-1	E/D	5	2			3	
32-2	E	5		3			2
32-3	D	9	1	2		2	4
32-4	A/D	14				2	12
32-5	D	2	2				
32-6	A	23		2	3	2	16
32-7	Inst./A	35				7	28
32-8	A	30				6	24
32-9	D	14		2			12
32-10	E/B/D/A	7		2	2		3
32-12	A/D	15				5	10
32-13	D	23				5	18
32-15	D	8	2			6	
32-16	A	23		2	3	2	16
32-17	D	4		4			
32-22	A	54					54
36-1	D	22				4	18
36-3	D	6	3			3	
36-4	D/A	3	3				
36-5	A	4	4				
36-6	A	6	2	4			
36-7	A	47				7	40
36-8	A	47				1	46
36-9	A	31		1	2	14	14
36-10	A	48					48
36-11	A	48					48
36-12	A	48					48
36-13	E/A	17				2	15
36-14	D	16			5	5	6
36-15	D/A	35					35
36-16	A	47				7	40
36-17	A	47				7	40
36-18	A	31		1	2	14	14
36-20	A	34			2	2	30
36-52	A	52					52
40-1	D	30				6	24
40-9	A	47			1	22	24
40-56	A	85					85
48-62	D	85					85

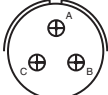
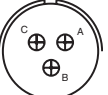
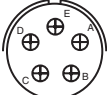

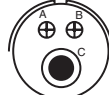

MS/Standard contact arrangements

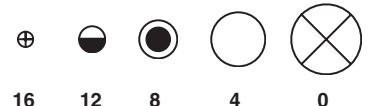
front face of pin insert or rear face of socket insert illustrated

							
			Front of Socket Insert	Front of Socket Insert			
Insert Arrangement	8S-1	10S-2	10SL-3	10SL-4	12S-3	12S-4	12-5
Service Rating	A	A	A	A	A	D	D
Number of Contacts	1	1	3	2	2	1	1
Contact Size	16	16	16	16	16	16	12

							
Insert Arrangement	14S-1	14S-2	14S-4	14S-5	14S-6	14S-7	14S-9
Service Rating	A	Inst.	D	Inst.	Inst.	A	A
Number of Contacts	3	4	1	5	6	3	2
Contact Size	16	16	16	16	16	16	16

						
	100° Rotation of 14S-2	100° Rotation of 14S-7				
Insert Arrangement	14S-10	14S-12	14-3	16S-1	16S-3	16S-4
Service Rating	Inst.	A	A	A	B	D
Number of Contacts	4	3	1	7	1	2
Contact Size	16	16	8	16	16	16

						
Insert Arrangement	16S-5	16S-6	16S-8	16-2	16-7	16-9
Service Rating	A	A	A	E	A	A
Number of Contacts	3	3	5	1	1 2	2 2
Contact Size	16	16	16	12	8 16	12 16



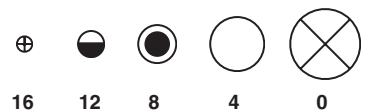
CONTACT LEGEND

16 12 8 4 0

MS/Standard contact arrangements

front face of pin insert or rear face of socket insert illustrated

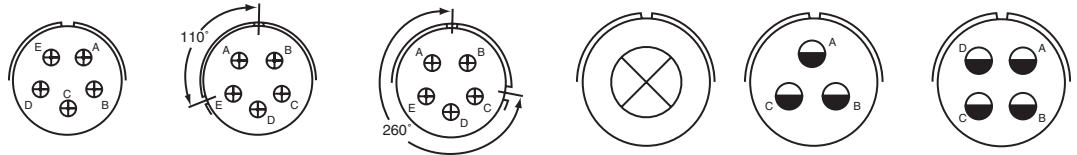
Insert Arrangement	16-10	16-11	16-12	16-13	18-1	18-3
Service Rating	A	A	A	A	B, C, F, G = A; Bal. = Inst.	D
Number of Contacts	3	2	1	2*	10	2
Contact Size	12	12	4	12	16	12
Insert Arrangement	18-4	18-5	18-6	18-7	18-8	18-9
Service Rating	D	D	D	B	A	Inst.
Number of Contacts	4	2 1	1	1	1 7	2 5
Contact Size	16	12 16	4	8	12 16	12 16
Insert Arrangement	18-10	18-11	18-12	18-13	18-14	18-15
Service Rating	A	A	A	A	A	A
Number of Contacts	4	5	6	1 3	1 1	4**
Contact Size	12	12	16	8 12	4 16	12
Insert Arrangement	18-16	18-17	18-19	18-20	18-22	18-24
Service Rating	C	Inst.	A	A	D	B, C, F, G = A; Bal. = Inst.
Number of Contacts	1	2 5	10	5	3	10
Contact Size	12	12 16	16	16	16	16



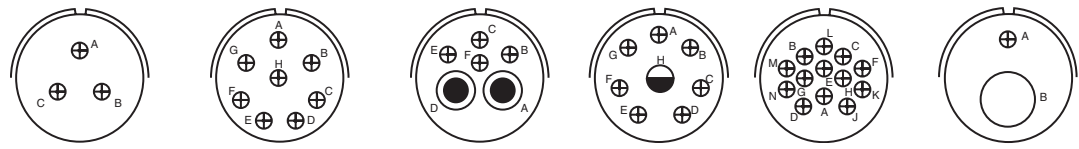
* A = Iron; B = Constantan
** A, C = Iron; B, D = Constantan

MS/Standard contact arrangements

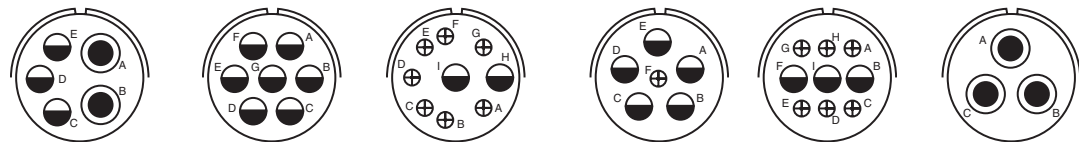
front face of pin insert or rear face of socket insert illustrated



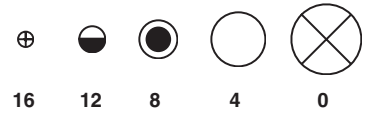
Insert Arrangement	18-29	18-30	18-31	20-2	20-3	20-4
Service Rating	A	A	A	D	D	D
Number of Contacts	5	5	5	1	3	4
Contact Size	16	16	16	0	12	12



Insert Arrangement	20-6	20-7	20-8	20-9	20-11	20-12
Service Rating	D	A, B, H, G = D; C, D, E, F = A	Inst.	H = D; Bal. = A	Inst.	A
Number of Contacts	3	8	2 4	1 7	13	1 1
Contact Size	16	16	8 16	12 16	16	4 16



Insert Arrangement	20-14	20-15	20-16	20-17	20-18	20-19
Service Rating	A	A	A	A	A	A
Number of Contacts	2 3	7	2 7	5 1	3 6	3
Contact Size	8 12	12	12 16	12 16	12 16	8

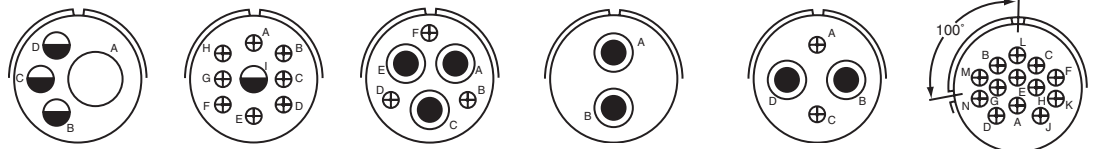


CONTACT LEGEND

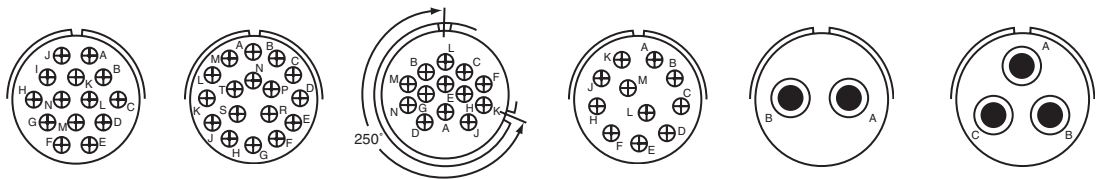
16 12 8 4 0

MS/Standard contact arrangements

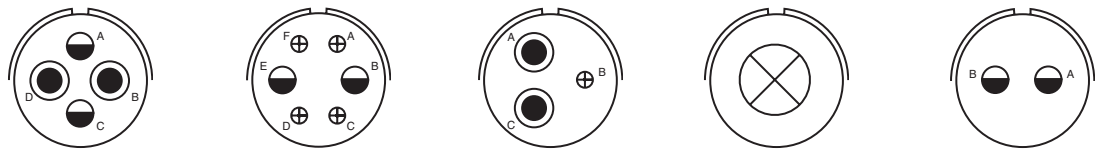
front face of pin insert or rear face of socket insert illustrated



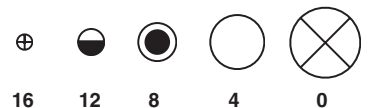
Insert Arrangement	20-20	20-21	20-22	20-23	20-24	20-25
Service Rating	A	A	A	A	A	Inst.
Number of Contacts	1 3	1 8	3 3	2	2 2	13
Contact Size	4 12	12 16	8 16	8	8 16	16



Insert Arrangement	20-27	20-29	20-30	20-33	22-1	22-2
Service Rating	A	A	Inst.	A	D	D
Number of Contacts	14	17	13	11	2	3
Contact Size	16	16	16	16	8	8



Insert Arrangement	22-4	22-5	22-6	22-7	22-8
Service Rating	A	D	D	E	E
Number of Contacts	2 2	2 4	2 1	1	2
Contact Size	8 12	12 16	8 16	0	12



CONTACT LEGEND

16 12 8 4 0

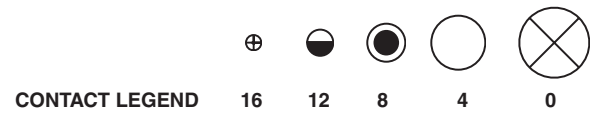
MS/Standard contact arrangements

front face of pin insert or rear face of socket insert illustrated

Insert Arrangement	22-9	22-10	22-11	22-12	22-13
Service Rating	E	E	B	D	E = D; A, B, C, D = A
Number of Contacts	3	4	2	2 3	4 1
Contact Size	12	16	16	8 16	12 16

Insert Arrangement	22-14	22-15	22-16	22-17	22-18
Service Rating	A	D = E; A, B, C, E, F = A	A	A = D; Bal. = A	A, B, F, G, H = D; C, D, E = A
Number of Contacts	19	5 1	3 6	1 8	8
Contact Size	16	12 16	12 16	12 16	16

Insert Arrangement	22-19	22-20	22-21	22-22	22-23
Service Rating	A	A	A	A	H = D; Bal. = A
Number of Contacts	14	9	1 2	4	8
Contact Size	16	16	0 16	8	12



MS/Standard contact arrangements

front face of pin insert or rear face of socket insert illustrated

Insert Arrangement	22-24	22-27	22-28	22-33	22-36
Service Rating	C, D, E = D; A, B, F = A	J = D; Bal. = A	A	A, B, C, D = D; E, F, G = A	H = D; Bal. = A*
Number of Contacts	2 4	1 8	7	7	8
Contact Size	12 16	8 16	12	16	12

Insert Arrangement	22-34	24-2	24-3	24-5	24-6
Service Rating	D	D	D	A	A, G, H = D; Bal. = A
Number of Contacts	3 2	7	2 5	16	8
Contact Size	12 16	12	12 16	16	12

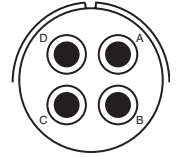
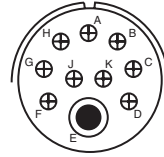
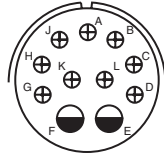
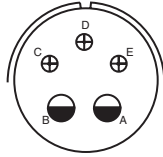
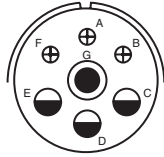
Insert Arrangement	24-7	24-9	24-10	24-11	24-12
Service Rating	A	A	A	A	A
Number of Contacts	2 14	2	7	3 6	2 3
Contact Size	12 16	4	8	8 12	4 12

* A, C, E, G = Iron
B, D, F, H = Constantan



MS/Standard contact arrangements

front face of pin insert or rear face of socket insert illustrated



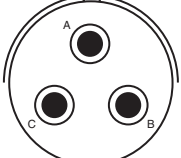
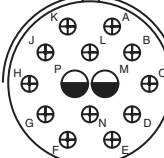
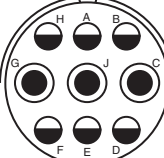
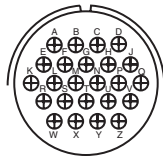
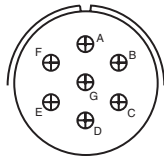
Insert Arrangement	24-16	
Service Rating	A, B, F, G = D; C, D, E, = A	
Number of Contacts	1 3 3	
Contact Size	8 12 16	

Insert Arrangement	24-17	
Service Rating	D	
Number of Contacts	2 3	
Contact Size	12 16	

Insert Arrangement	24-20	
Service Rating	D	
Number of Contacts	2 9	
Contact Size	12 16	

Insert Arrangement	24-21	
Service Rating	D	
Number of Contacts	1 9	
Contact Size	8 16	

Insert Arrangement	24-22	
Service Rating	D	
Number of Contacts	4	
Contact Size	8	



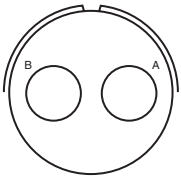
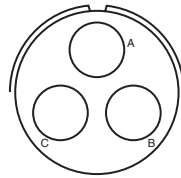
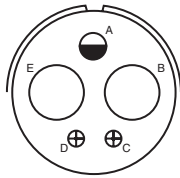
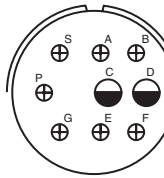
Insert Arrangement	24-27	
Service Rating	E	
Number of Contacts	7	
Contact Size	16	

Insert Arrangement	24-28	
Service Rating	Inst.	
Number of Contacts	24	
Contact Size	16	

Insert Arrangement	28-1	
Service Rating	A, J, E = D; Bal. = A	
Number of Contacts	3 6	
Contact Size	8 12	

Insert Arrangement	28-2	
Service Rating	D	
Number of Contacts	2 12	
Contact Size	12 16	

Insert Arrangement	28-3	
Service Rating	E	
Number of Contacts	3	
Contact Size	8	

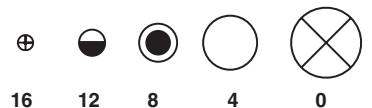


Insert Arrangement	28-4	
Service Rating	G, P, S = E; Bal. = D	
Number of Contacts	2 7	
Contact Size	12 16	

Insert Arrangement	28-5	
Service Rating	D	
Number of Contacts	2 1 2	
Contact Size	4 12 16	

Insert Arrangement	28-6	
Service Rating	D	
Number of Contacts	3	
Contact Size	4	

Insert Arrangement	28-7	
Service Rating	D	
Number of Contacts	2	
Contact Size	4	

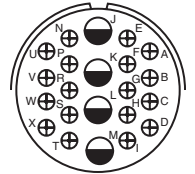
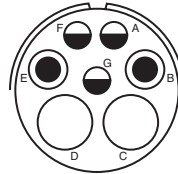
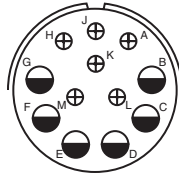
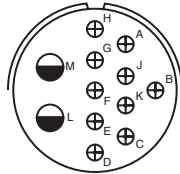


CONTACT LEGEND

16 12 8 4 0

MS/Standard contact arrangements

front face of pin insert or rear face of socket insert illustrated

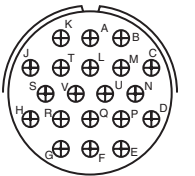
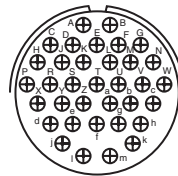
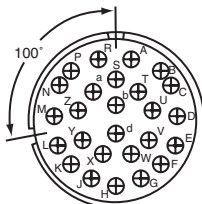
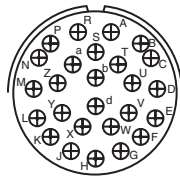


Insert Arrangement	28-8
Service Rating	L, M = E; B = D; Bal. = A
Number of Contacts	2 10
Contact Size	12 16

28-9
D
6 6
12 16

28-10
G = D; Bal. = A
2 2 3
4 8 12

28-11
A
4 18
12 16



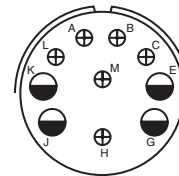
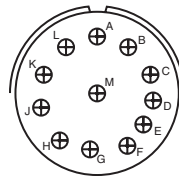
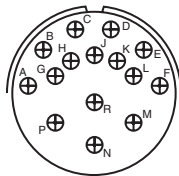
Insert Arrangement	28-12
Service Rating	A
Number of Contacts	26
Contact Size	16

100° Rotation
of 28-12

28-13
A
26
16

28-15
A
35
16

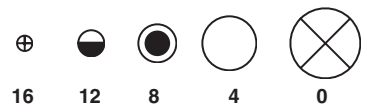
28-16
A
20
16



Insert Arrangement	28-17
Service Rating	R = B; M, N, P = D; A to L = A
Number of Contacts	15
Contact Size	16

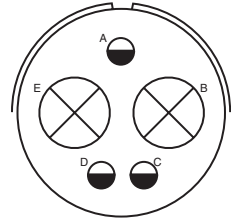
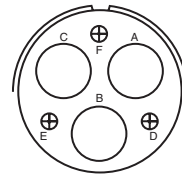
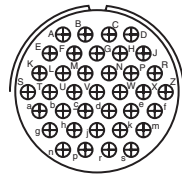
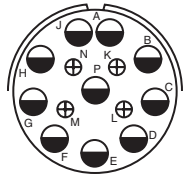
28-18
M = C; G, H, J, K, L = D; A, B = A; Bal. = Inst.
12
16

28-19
H, M = B; A, B = D; Bal. = A
4 6
12 16



MS/Standard contact arrangements

front face of pin insert or rear face of socket insert illustrated



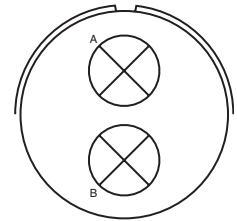
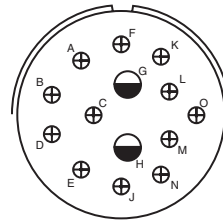
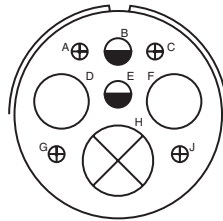
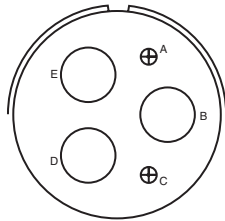
Insert Arrangement
Service Rating
Number of Contacts
Contact Size

28-20
A
10 4
12 16

28-21
A
37
16

28-22
D
3 3
4 16

32-1
A = E; B, C, D, E = D
2 3
0 12



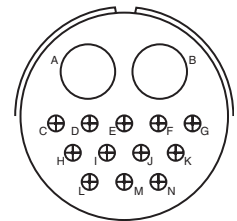
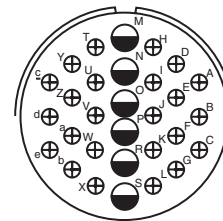
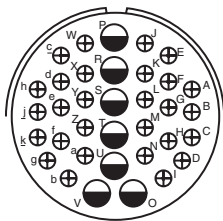
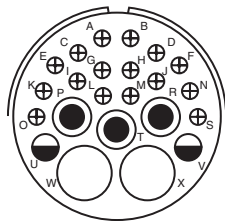
Insert Arrangement
Service Rating
Number of Contacts
Contact Size

32-2
E
3 2
4 16

32-3
D
1 2 2 4
0 4 12 16

32-4
F, J, K, N = A; Bal. = D
2 12
12 16

32-5
D
2
0



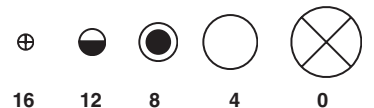
Insert Arrangement
Service Rating
Number of Contacts
Contact Size

32-6
A
2 3 2 16
4 8 12 16

32-7
A, B, h, j = Inst.; Bal. = A
7 28
12 16

32-8
A
6 24
12 16

32-9
D
2 12
4 16

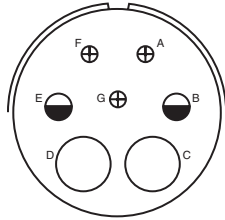


CONTACT LEGEND

16 12 8 4 0

MS/Standard contact arrangements

front face of pin insert or rear face of socket insert illustrated



32-10

Insert Arrangement

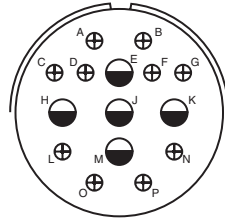
Service Rating

Number of Contacts

Contact Size

A, F = E; G = B; B, E = D; C, D = A

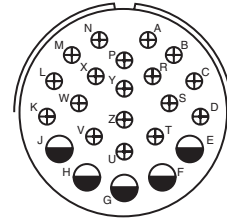
2 2 3
4 8 16



32-12

C, D, E, F, G = A; Bal. = D

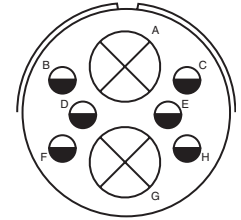
5 10
12 16



32-13

D

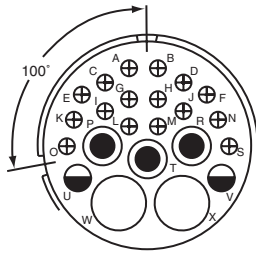
5 18
12 16



32-15

D

2 6
0 12



100° Rotation
of 32-6

32-16

Insert Arrangement

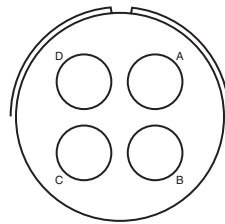
Service Rating

Number of Contacts

Contact Size

A

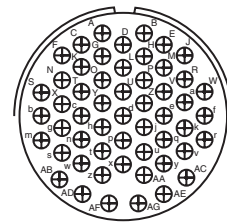
2 3 2 16
4 8 12 16



32-17

D

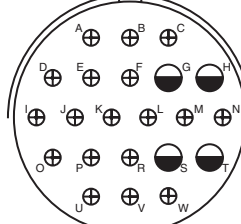
4
4



32-22

A

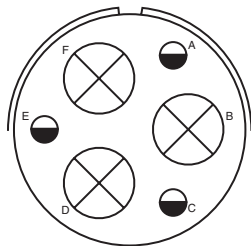
54
16



36-1

D

4 18
12 16



36-3

Insert Arrangement

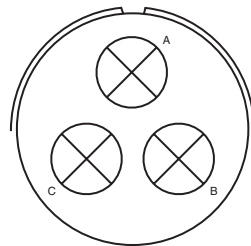
Service Rating

Number of Contacts

Contact Size

D

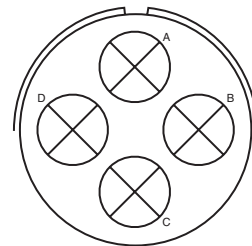
3 3
0 12



36-4

A = D; B, C = A

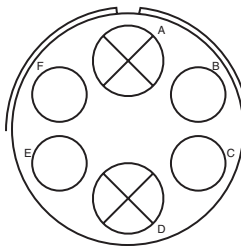
3
0



36-5

A

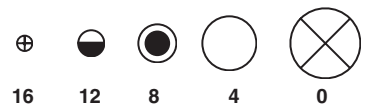
4
0



36-6

A

2 4
0 4



CONTACT LEGEND

16

12

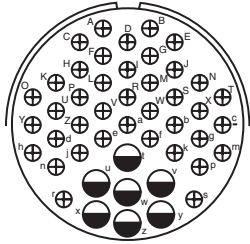
8

4

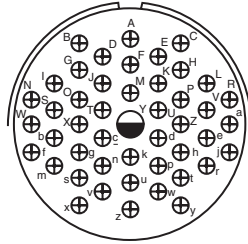
0

MS/Standard contact arrangements

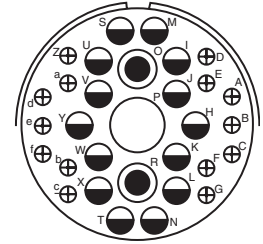
front face of pin insert or rear face of socket insert illustrated



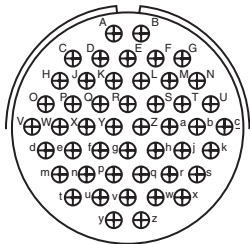
Insert Arrangement	36-7
Service Rating	A
Number of Contacts	7 40
Contact Size	12 16



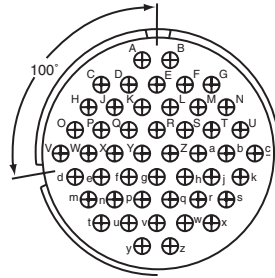
Insert Arrangement	36-8
Service Rating	A
Number of Contacts	1 46
Contact Size	12 16



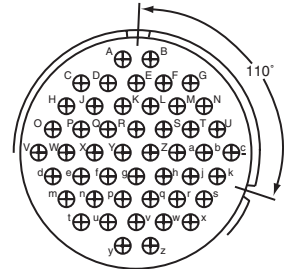
Insert Arrangement	36-9
Service Rating	A
Number of Contacts	1 2 14 14
Contact Size	4 8 12 16



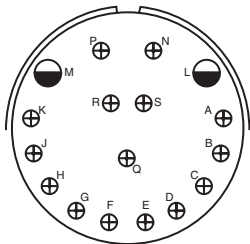
Insert Arrangement	36-10
Service Rating	A
Number of Contacts	48
Contact Size	16



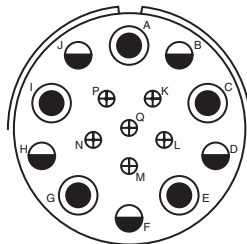
Insert Arrangement	36-11
Service Rating	A
Number of Contacts	48
Contact Size	16



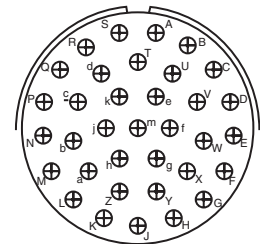
Insert Arrangement	36-12
Service Rating	A
Number of Contacts	48
Contact Size	16



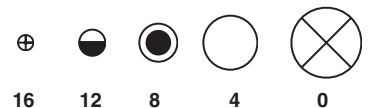
Insert Arrangement	36-13
Service Rating	N, P, Q = E; Bal. = A
Number of Contacts	2 15
Contact Size	12 16



Insert Arrangement	36-14
Service Rating	D
Number of Contacts	5 5 6
Contact Size	8 12 16



Insert Arrangement	36-15
Service Rating	M = D; Bal. = A
Number of Contacts	35
Contact Size	16

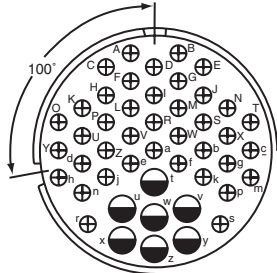


CONTACT LEGEND

16 12 8 4 0

MS/Standard contact arrangements

front face of pin insert or rear face of socket insert illustrated

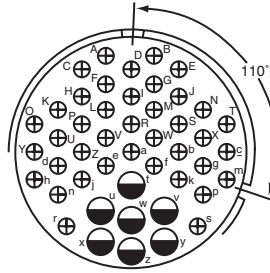


100° Rotation
of 36-7

36-16

Insert Arrangement
Service Rating
Number of Contacts
Contact Size

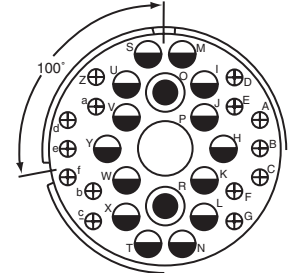
A
7 40
12 16



110° Rotation
of 36-7

36-17

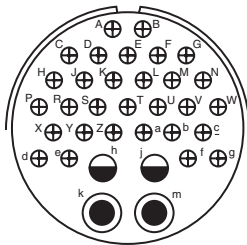
A
7 40
12 16



100° Rotation
of 36-9

36-18

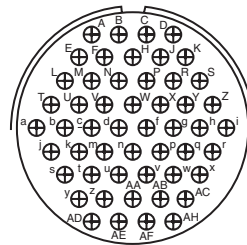
A
1 2 14 14
4 8 12 16



36-20

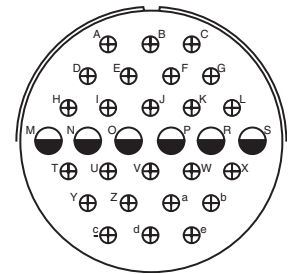
Insert Arrangement
Service Rating
Number of Contacts
Contact Size

A
2 2 30
8 12 16



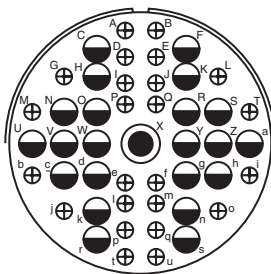
36-52

A
52
16



40-1

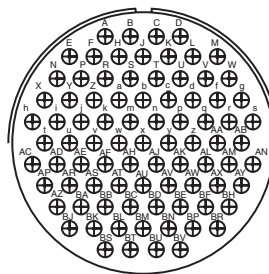
D
6 24
12 16



40-9

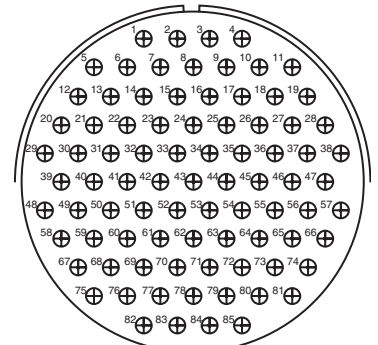
Insert Arrangement
Service Rating
Number of Contacts
Contact Size

A
1 22 24
8 12 16



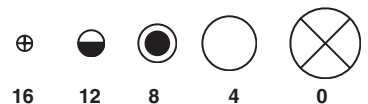
40-56

A
85
16



48-62

D
85
16



CONTACT LEGEND

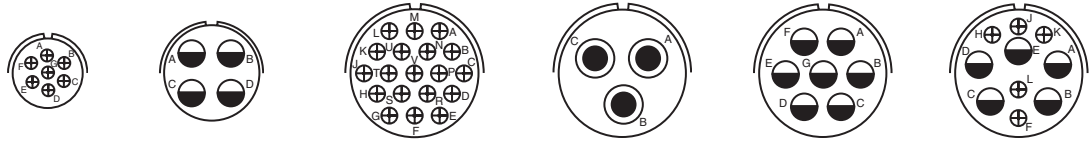
16 12 8 4 0

Special contact arrangements

Requirements for more complex circuits prompted Amphenol to provide inserts not covered by the MS drawings. Illustrated here and on the following pages are insert layouts which have from one contact (high tension) to the 104 contact insert in shell size 44.

Many of these special inserts are also available in alternate keyway arrangements. Please contact Amphenol, Sidney, NY for additional information on special circuit application requirements.

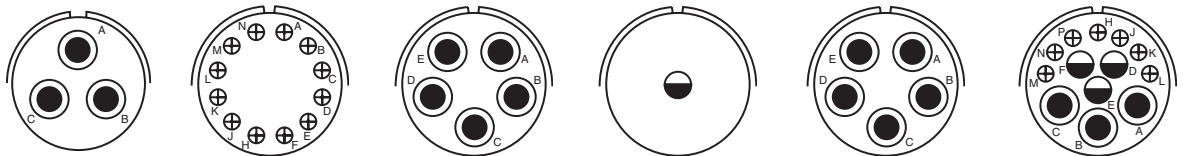
front face of pin insert or rear face of socket insert illustrated



Insert Arrangement	14S-A7	16-59	20-26	20-51	20-57	20-58
Service Rating	A	A	A	A	A	A
Number of Contacts	7	4	19	3*	7*	5 5
Contact Size	16	12	16	8	12 for #14 or 16 wire	12 16



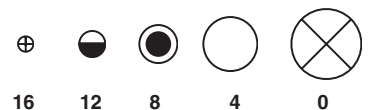
Insert Arrangement	20-59	20-66	20-79	22-63	22-65	22-70
Service Rating	A	A	H = D; Bal. = A	A	H = D; Bal. = A	A
Number of Contacts	3*	1 5	7* 1*	4 8	8*	8 5
Contact Size	8 for #10 or 12 wire	16 12 for #10 wire	16 12 for #16 wire	12 16	12 for #14 or 16 wire	12 16



Insert Arrangement	22-80	24-19	24-51	24-52	24-53	24-58
Service Rating	A	A	A	Hi-Volt	A	A
Number of Contacts	3*	12	5*	1	5*	3 3 7
Contact Size	8 for #10 or 12 wire	16	B, E for AN #10 or 12 wire A, C, D for AN #8 wire	12	8	8 12 16

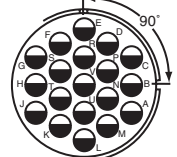
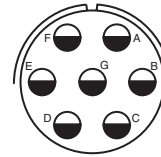
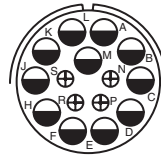
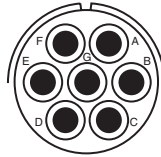
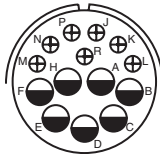
* Solderless

CONTACT LEGEND

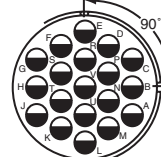
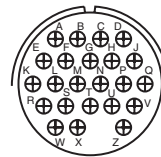
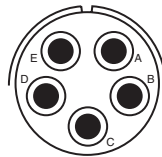
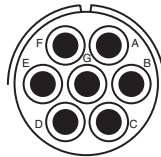
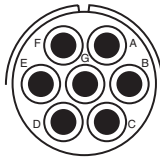


Special contact arrangements

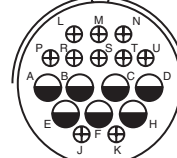
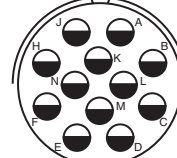
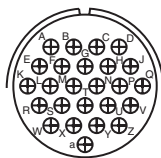
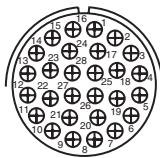
front face of pin insert or rear face of socket insert illustrated



Insert Arrangement	24-59	24-60	24-65	24-66	24-67
Service Rating	A	A	A	D	Inst.
Number of Contacts	7 7	7*	11 4	7	19
Contact Size	12 16	8 for #10 or 12 wire	12 16	12	12



Insert Arrangement	24-71	24-75	24-79	24-80	24-84
Service Rating	A	A	A	Inst.	A
Number of Contacts	2* 5*	5 2	5	23	1 18
Contact Size	8 8 for #10 or 12 wire	8 8 for #16 wire	8	16	12 12 (Coax) RG-188/U or RG-174/U



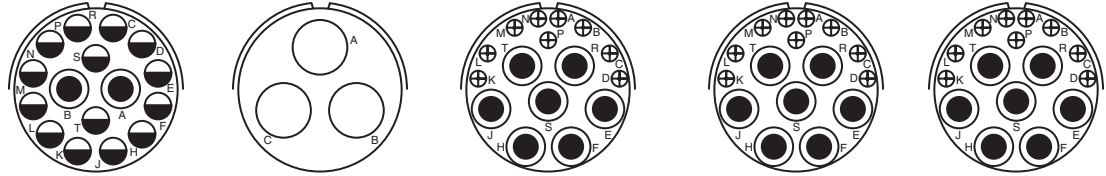
Insert Arrangement	24-96	24-AJ	28-51	28-59
Service Rating	Inst.	A	A	A
Number of Contacts	28	25	12	7 10
Contact Size	16	16	12	12 16

* Solderless

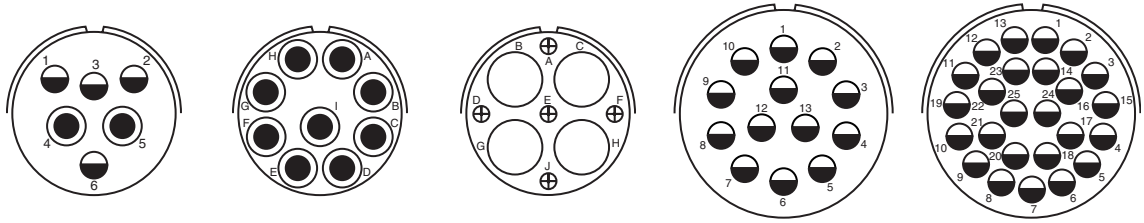


Special contact arrangements

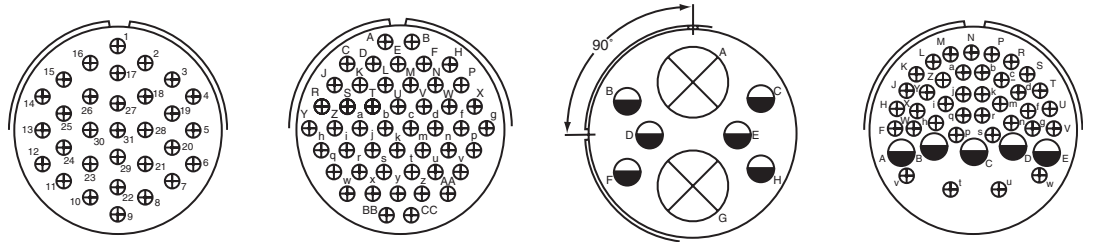
front face of pin insert or rear face of socket insert illustrated



Insert Arrangement	28-66	28-72	28-74	28-75	28-79
Service Rating	A	—	A	A	A
Number of Contacts	2 14	3	9* 4* 3*	9* 7*	7 9
Contact Size	8 12	4 (Coax) RG-59A/U or RG-62A/U	16 8 8 for #10 wire (S, T, R)	16 8 for #10 wire	8 16



Insert Arrangement	28-82	28-84	28-AY	32-14	32-25
Service Rating	D	A	A	D	A
Number of Contacts	2 4	9	4 5	13	25
Contact Size	8 12	8	4 16	12	12

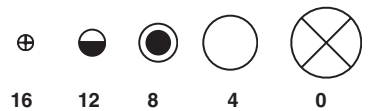


Insert Arrangement	32-31	32-48	32-52	32-53
Service Rating	A	Inst.	D	t, u = E; Bal. = Inst.
Number of Contacts	31	48	6 2	5 37
Contact Size	16	16	12 0	12 16

* Solderless

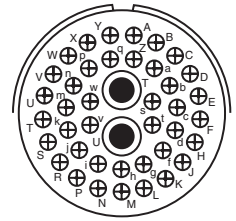
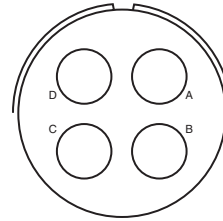
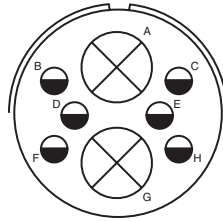
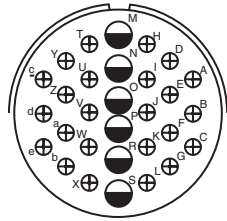


CONTACT LEGEND

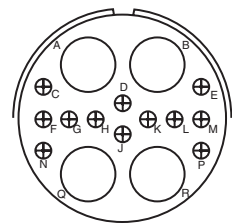
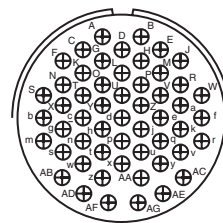
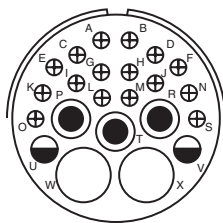
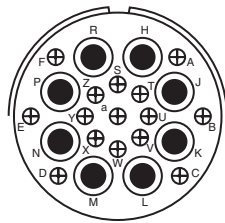


Special contact arrangements

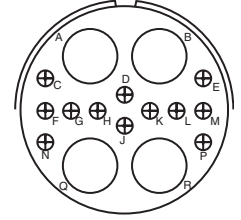
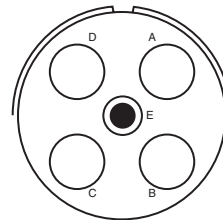
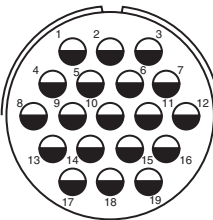
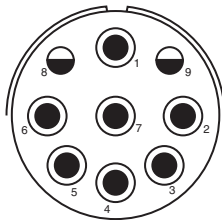
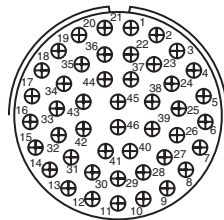
front face of pin insert or rear face of socket insert illustrated



Insert Arrangement	32-56	32-57	32-58	32-59
Service Rating	A	**	-	A
Number of Contacts	24 6	6 2	4	40 2
Contact Size	16 12 for #10 wire	12 0 (Coax) RG-71/U	4 (Coax) RG-161/U or RG-179/U	16 8 (Coax) RG-161/U



Insert Arrangement	32-60	32-62	32-64	32-68
Service Rating	A	**	Inst.	A
Number of Contacts	15 8	2 1 2 16 2	54	12 4
Contact Size	16 8 (Coax) RG-124/U	4 8 12 16 8 (Coax) RG-124/U	16	16 4 (Coax) RG-58C/U



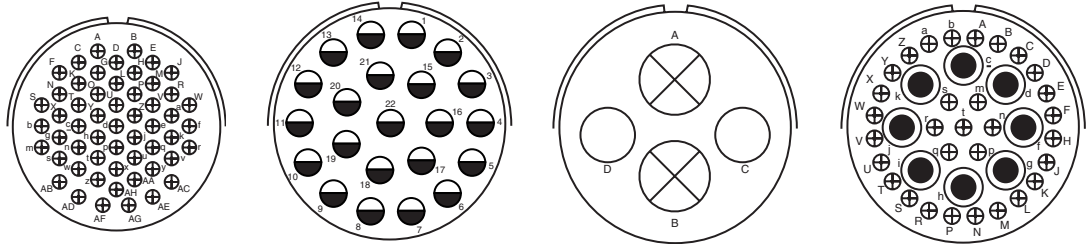
Insert Arrangement	32-73	32-75	32-76	32-79	32-82
Service Rating	A	8, 9 = D	A	D	A
Number of Contacts	46	2 7	19	4 1	4 12
Contact Size	16	12 8 (Coax) RG-180B/U	12	4 8	4 16

** Consult Amphenol, Sidney, NY for service rating of power contacts.

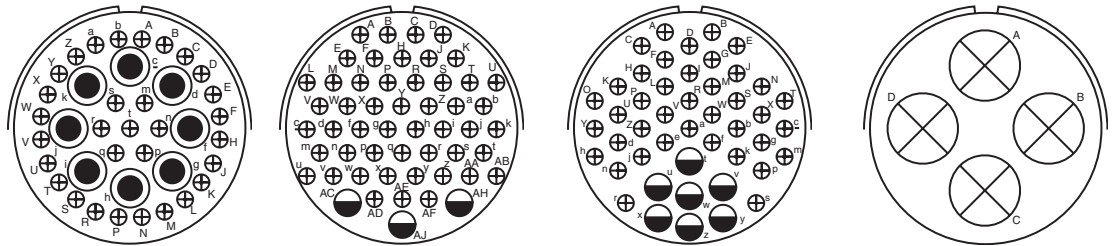


Special contact arrangements

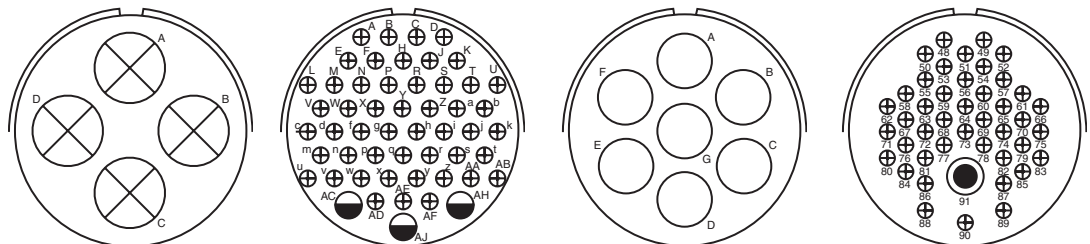
front face of pin insert or rear face of socket insert illustrated



Insert Arrangement	32-AF	36-22	36-51	36-54
Service Rating	A	D	D	A
Number of Contacts	55	22	2 2	8 31
Contact Size	16	12	0 4	8 16



Insert Arrangement	36-55	36-59	36-60	36-64
Service Rating	A	A	**	-
Number of Contacts	31 8	50 3	40 7	4
Contact Size	16 8 for #6 wire	16 12 for #10 wire	16 12 for #10 wire	0 (Coax) RG-11/U, RG-12/U or RG-13/U



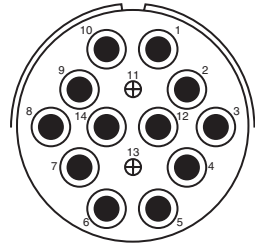
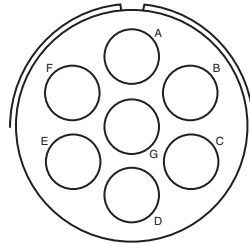
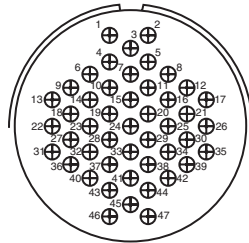
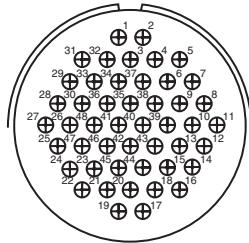
Insert Arrangement	36-65	36-71	36-73	36-74
Service Rating	-	A	-	A
Number of Contacts	4	3 50	7	43 1
Contact Size	0 (Coax) RG-59/U, RG-62/U or RG-71/U	12 16	4 (Coax) RG-62B/U	16 8 (Coax) RG-187/U

** Consult Amphenol, Sidney, NY for service rating of power contacts.

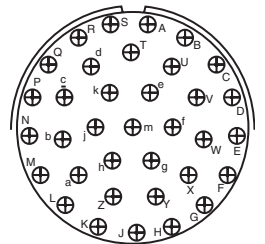
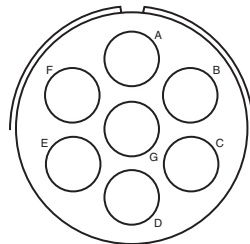
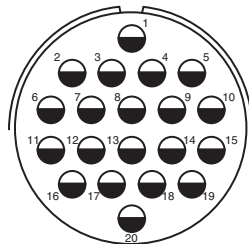
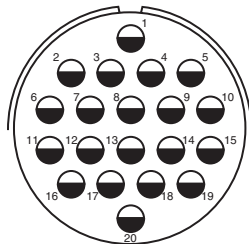


Special contact arrangements

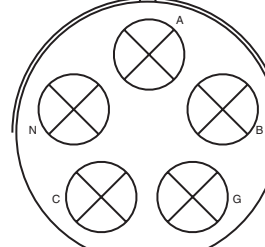
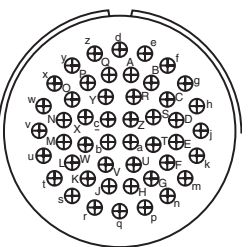
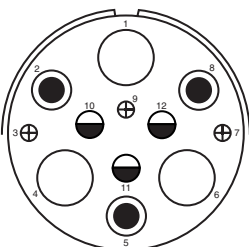
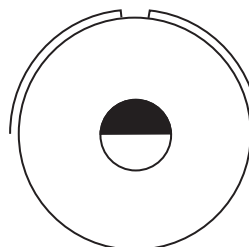
front face of pin insert or rear face of socket insert illustrated



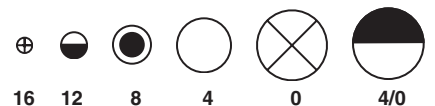
Insert Arrangement	36-75	36-76	36-77	36-78
Service Rating	A	A	D	A
Number of Contacts	48	47	7	2 12
Contact Size	16 for #14 wire	16	4	16 8



Insert Arrangement	36-79	36-80	36-83	36-85
Service Rating	A	A	-	M = D; Bal. = A
Number of Contacts	20	20	7	35
Contact Size	12	12 for #10 wire	4 (Coax) RG-58/U	16 for #12 wire

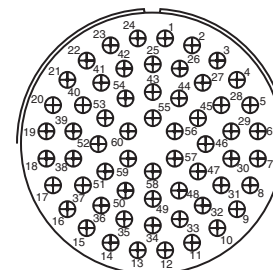
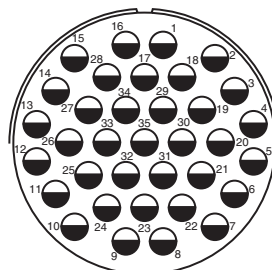
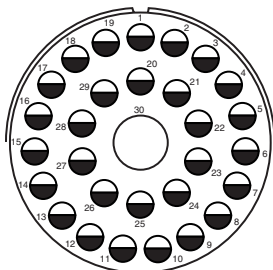
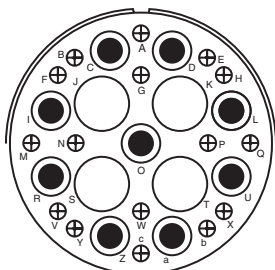


Insert Arrangement	36-97	36-99	36-AF	40-5
Service Rating	C	D	A	A
Number of Contacts	1	3 3 3 3	48	5
Contact Size	4/0	4 8 12 16	16	0

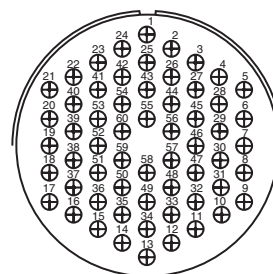
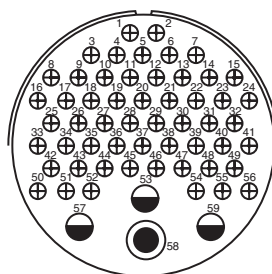
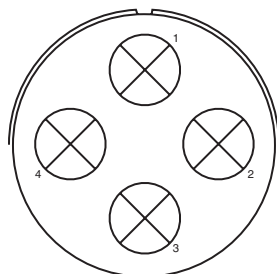


Special contact arrangements

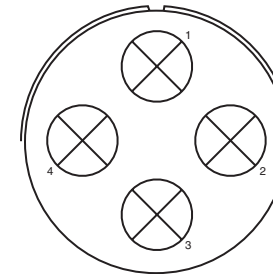
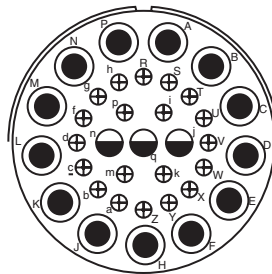
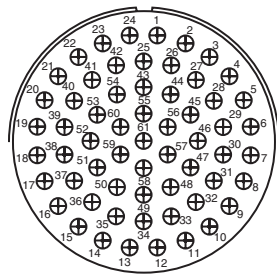
front face of pin insert or rear face of socket insert illustrated



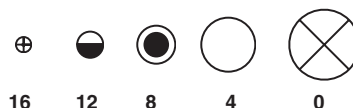
Insert Arrangement	40-10	40-30	40-35	40-53
Service Rating	A	A	D	A
Number of Contacts	4 9 16	29 1	35	60
Contact Size	4 8 16	12 4	12	16



Insert Arrangement	40-57	40-61	40-62
Service Rating	E	A	A
Number of Contacts	4	1 3 55	60
Contact Size	0	8 12 16	16



Insert Arrangement	40-63	40-64	40-66
Service Rating	A	-	-
Number of Contacts	61	3 20 13	4
Contact Size	16 for #14 wire	12 16 8 (Coax) RG-124/U	0 (Coax) RG-63B/U

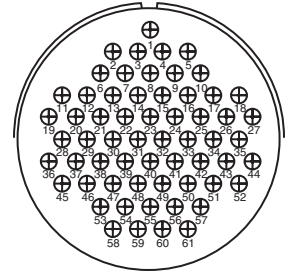
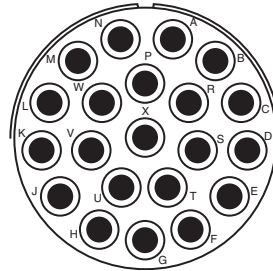
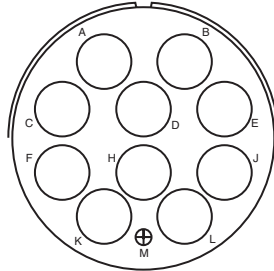


CONTACT LEGEND

16 12 8 4 0

Special contact arrangements

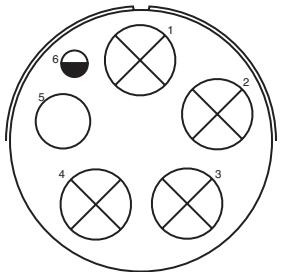
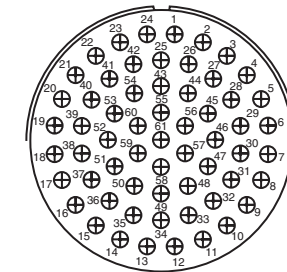
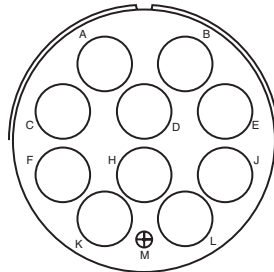
front face of pin insert or rear face of socket insert illustrated



Insert Arrangement 40-67
Service Rating A
Number of Contacts 1 10
Contact Size 16 4 (Coax) RG-59/U

Insert Arrangement 40-68
Service Rating A
Number of Contacts 21
Contact Size 8

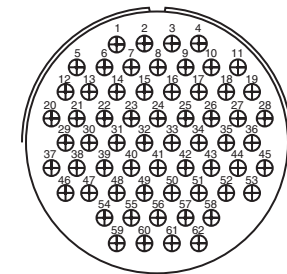
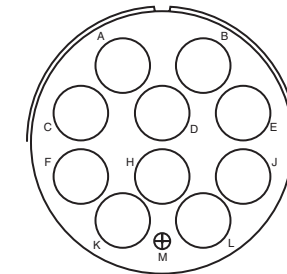
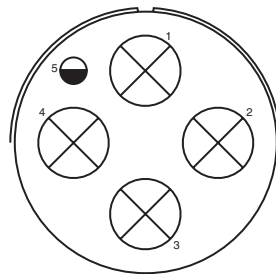
Insert Arrangement 40-70
Service Rating A
Number of Contacts 61
Contact Size 16



Insert Arrangement 40-72
Service Rating A
Number of Contacts 1 10
Contact Size 16 4 (Coax) RG-9B/U

Insert Arrangement 40-73
Service Rating A
Number of Contacts 61
Contact Size 16

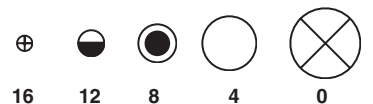
Insert Arrangement 40-74
Service Rating A
Number of Contacts 1 1 4
Contact Size 12 4 (Coax) RG-62/U 0 (Coax) RG-9B/U or RG-214/U



Insert Arrangement 40-75
Service Rating E
Number of Contacts 1 4
Contact Size 12 0

Insert Arrangement 40-80
Service Rating A
Number of Contacts 1 10
Contact Size 16 4

Insert Arrangement 40-81
Service Rating A
Number of Contacts 62
Contact Size 16 for #14 wire

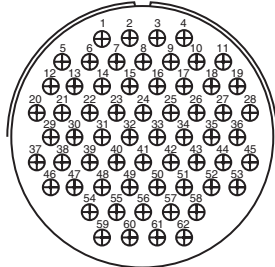


CONTACT LEGEND

16 12 8 4 0

Special contact arrangements

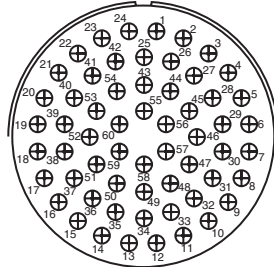
front face of pin insert or rear face of socket insert illustrated



40-82

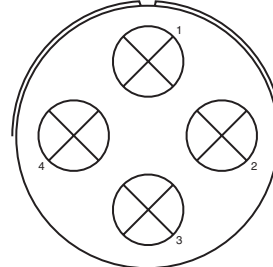
Insert Arrangement
Service Rating
Number of Contacts
Contact Size

A
62
16



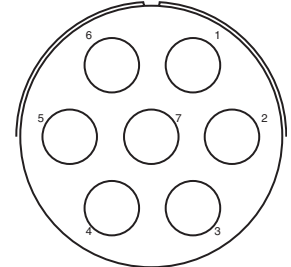
40-85

A
60
16 for #14 wire



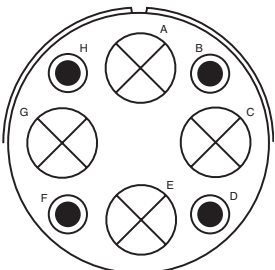
40-86

-
4
0(Coax) RG-115A/U



40-87

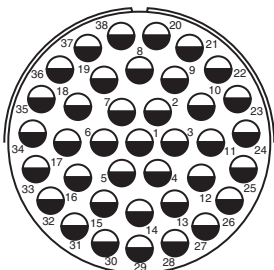
D
7
4



40-AD

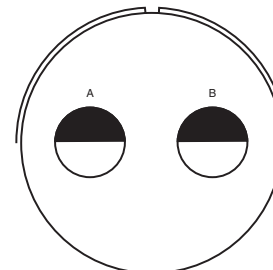
Insert Arrangement
Service Rating
Number of Contacts
Contact Size

A
4 4
8 0



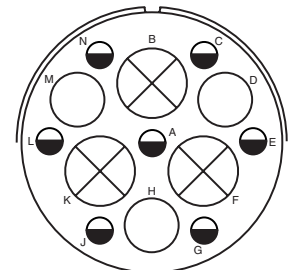
40-AG

A
38
12



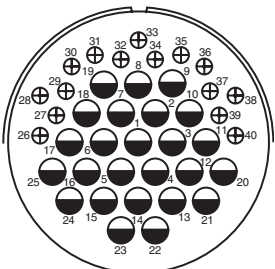
40-AP

E
2
4/0



40-AR

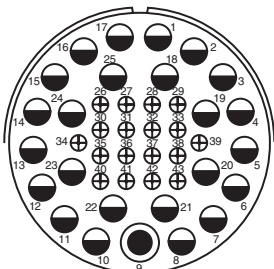
Inst.
7 3 3
12 4 0



40-AS

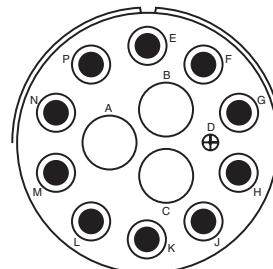
Insert Arrangement
Service Rating
Number of Contacts
Contact Size

A
15 25
16 12



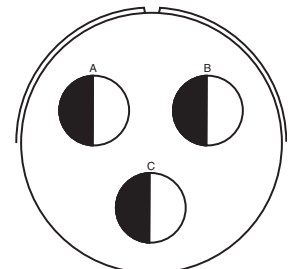
40-AT

A
24 18 1
12 16 8



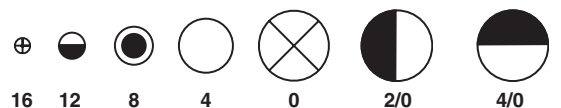
40-AU

A
3 10 1
4 8 16



40-AV

D
3
2/0

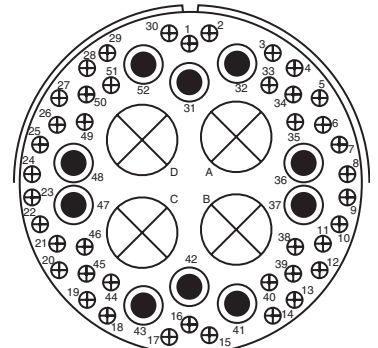
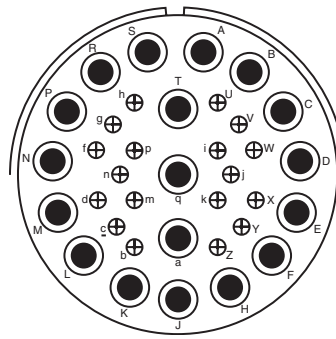
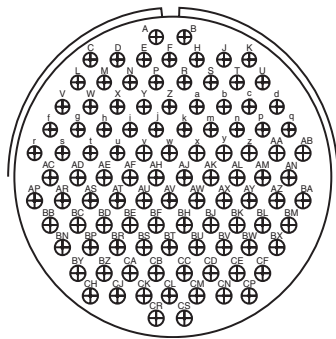


CONTACT LEGEND

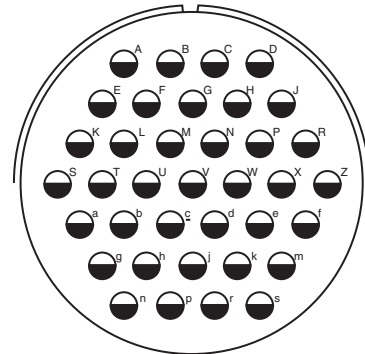
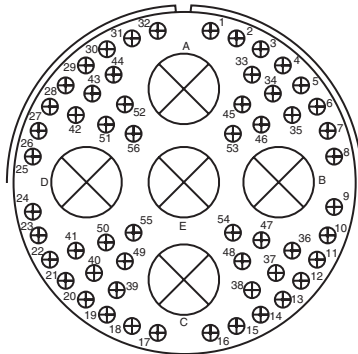


Special contact arrangements

front face of pin insert or rear face of socket insert illustrated



Insert Arrangement	44-52	44-53	48-51
Service Rating	A	A	A
Number of Contacts	104	18 18	42 10 4
Contact Size	16	16 8 (Coax) RG-124/U	16 8 0 (Coax) RG-41/U

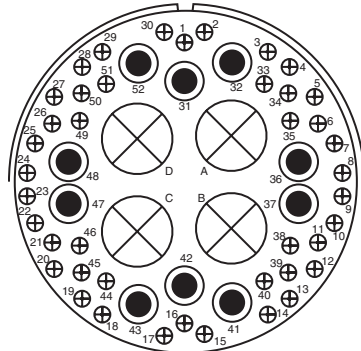


Insert Arrangement	48-52	48-53
Service Rating	A	D
Number of Contacts	56 5	37
Contact Size	16 0 (Coax) RG-41/U	12



Special contact arrangements

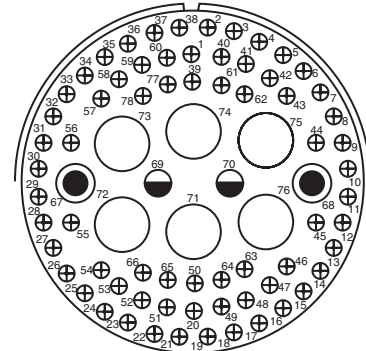
front face of pin insert or rear face of socket insert illustrated



48-54

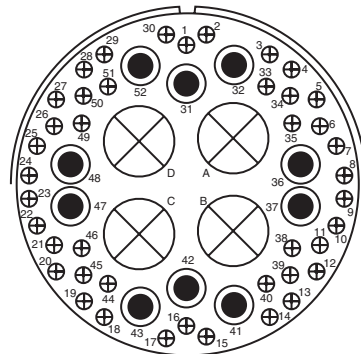
Insert Arrangement
Service Rating
Number of Contacts
Contact Size

A
42 10 4
16 8 0 (Coax) RG-59/U



48-55

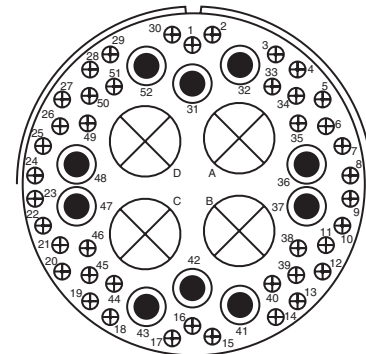
A
68 2 2 6
16 12 8 4



48-57

Insert Arrangement
Service Rating
Number of Contacts
Contact Size

A
42 10 4
16 8 0



48-60

A
42 10 4
16 8 0 (Coax) RG-214/U



CONTACT LEGEND 16 12 8 4 0

Thermocouple contact availability

A complete line of cylindrical connectors containing thermocouple insert arrangements is available. The contact layout for a particular arrangement will be found in either the MS/Standard contact arrangement section, pages 26-37, or the Special contact arrangement section, pages 38-48. All thermocouple contact layouts may contain either iron, alumel, chromel, constantan, standard (copper) or brass (dummy) contacts. See the thermocouple tabulations on the following pages.

The following abbreviations are used in the contact material column in the charts that follow. Also, thermocouple contacts are color coded as shown. (This identification is made by means of small dots of stain on the solder well end of the contact).

Abbreviation	Material	Color Code
Ir.	Iron	Black
Con.	Constantan	Yellow
Cu.	Copper Alloy	N/A
Ch.	Chromel	White
Al.	Alumel	Green
Dummy	Brass	N/A

WIRE WELL DATA

Contact Size	Well Inside Dia. +.004 -.002	Well Depth +.031 -.000	Solder Well Barrel Outside Dia.
12	.125	.250	.166 ±.003
16	.094	.188	.125 ^{+.002} -.004

RECOMMENDED WIRE

I Chromel - Alumel	Use wire in accordance with MIL-W-5848
II Iron - Constantan	Use wire in accordance with MIL-W-5845

Thermocouple contact arrangements

Shell Size and Arrg.	Similar to MS Arrg.	Total Contacts	Contact Size		Pin Insert Rotation C W	Contact Material
			12	16		
10SL-51	10SL-4	2		2	45°	A = Ir.; B = Con.
10SL-52	10SL-4	2		2	45°	A = Cu.; B = Con.
10SL-53	10SL-4	2		2	45°	A = Al.; B = Ch.
10SL-54	10SL-3	3		3	None	A = Ir.; B = Con.; C = Cu.
10SL-55	10SL-3	3		3	None	A = Al.; B = Ch.; C = Cu.
10SL-56	10SL-4	2		2	None	A = Al.; B = Ch.
10SL-57	10SL-4	2		2	None	A = Ch.; B = Con.
10SL-58	10SL-3	3		3	None	A = Ch.; B = Al.; C = Cu.
10SL-59	10SL-4	2		2	None	A = Ch.; B = Al.
10SL-60	10SL-4	2		2	None	A = Ir.; B = Con.
10SL-61	10SL-4	2		2	None	A = Cu.; B = Con.
10SL-62	10SL-3	3		3	None	A = Cu.; B = Al.; C = Ir.
10SL-63	10SL-3	3		3	None	A, C = Con.; B = Ch.
10SL-64	10SL-3	3		3	None	A, C = Ch.; B = Al.
12S-51	12S-3	2		2	315°	A = Ch.; B = Al.
12S-54	12S-3	2		2	315°	A = Ir.; B = Con.
12S-55	12S-3	2		2	45°	A = Cu.; B = Con.
12S-56	12S-3	2		2	None	A = Al.; B = Ch.
12S-57	12S-3	2		2	60°	A = Ch.; B = Al.
12S-58	12S-3	2		2	120°	A = Ir.; B = Con.
12S-59	12S-3	2		2	None	A = Ir.; B = Con.
12S-60	12S-3	2		2	None	A = Cu.; B = Con.
12S-61	12S-3	2		2	None	A = Ch.; B = Con.
12S-62	12S-3	2		2	None	A = Ch.; B = Al.
14S-51	14S-9	2		2	90°	A = Al.; B = Ch.
14S-52	14S-2	4		4	45°	A, B = Cu.; C = Al.; D = Ch.
14S-53	14S-9	2		2	90°	A = Ir.; B = Con.
14S-54	14S-6	6		6	45°	A, C, E = Ir.; B, D, F = Con.
14S-55	14S-2	4		4	45°	A, C = Ir.; B, D = Con.
14S-56	14S-2	4		4	45°	A = Ir.; B = Con.; C, D = Cu.
14S-57	14S-2	4		4	45°	A, C = Al.; B, D = Ch.
14S-58	14S-7	3		3	45°	A = Al.; B = Ch.; C = Cu.
14S-59	14S-9	2		2	90°	A = Cu.; B = Con.
14S-60	14S-9	2		2	None	A = Al.; B = Ch.
14S-61	14S-6	6		6	45°	A = Al.; B = Ch.; C = Ir.; D = Con.; E, F = Cu.
14S-63	14S-6	6		6	None	A, C = Al.; B, D = Ch.; E = Ir.; F = Con.
14S-64	14S-2	4		4	None	A, C = Con.; B, D = Cu.
14S-65	14S-6	6		6	None	A, C, E = Cu.; B, D, F = Con.
14S-67	14S-6	6		6	None	A = Al.; B = Ch.; Balance = Cu.
14S-68	14S-2	4		4	45°	A = Ch.; B = Con.; C, D = Cu.
14S-69	14S-7	3		3	None	A = Con.; B = Ch.; C = Cu.
14S-70	14S-2	4		4	None	A, D = Ch.; B, C = Al.
14S-71	14S-2	4		4	None	A, B, D = Cu.; C = Con.
14S-72	14S-9	2		2	None	A = Con.; B = Cu.
14S-73	14S-2	4		4	None	A, B = Cu.; C = Al.; D = Ch.

Thermocouple contact arrangements

Shell Size and Arrg.	Similar to MS Arrg.	Total Contacts	Contact Size		Pin Insert Rotation C W	Contact Material
			12	16		
14S-74	14S-2	4		4	None	A, B = Ch.; C, D = Al.
14S-75	14S-2	4		4	None	A, B = Cu.; C, D = Con.
14S-76	14S-2	4		4	None	A, C = Al.; B, D = Ch.
14S-77	14S-2	4		4	None	A, D = Al.; B, C = Ch.
14S-78	14S-9	2		2	None	A = Ch.; B = Al.
16S-52	16S-4	2		2	None	A = Ch.; B = Al.
16S-54	16S-1	7		7	None	A = Al.; B = Ch.; Balance = Cu.
16S-55	16S-1	7		7	None	A = Con.; Balance = Cu.
16-52	16-11	2	2		90°	A = Al.; B = Ch.
16-53	16-9	4	2	2	70°	A = Al.; C = Ch.; B, D = Cu.
16-55	16-10	3	3		45°	A = Al.; B = Ch.; C = Cu.
16-56	16-13	2	2		90°	A = Con.; B = Cu.
16-57	16-10	3	3		None	A = Al.; B = Cu.; C = Ch.
16-58	16-10	3	3		None	A = Con.; B, C = Cu.
16-60	16-13	2	2		None	A = Al.; B = Ch.
16-62	16-11	2	2		None	A = Con.; B = Cu.
18-51	18-12	6		6	None	A = Ir.; B, E = Con.; D = Cu.; C, F = Dummy
18-52	18-11	5	5		None	A = Ir.; B = Con.; C = Ch.; D = Al.; E = Dummy
18-53	18-12	6		6	None	A, D = Ir.; B, E = Con.; C, F = Dummy
18-54	18-15	4	4		None	A, C = Al.; B, D = Ch.
18-56	18-1	10		10	45°	A, C, E, G, I = Ir.; B, D, F, H, J = Con.
18-57	18-12	6		6	45°	A, C, E = Al.; B, D, F = Ch.
18-59	18-12	6		6	45°	A, C = Ir.; B, E, F = Con.; D = Cu.
18-60	18-11	5	5		45°	A, D = Al.; B, C, = Ch.; E = Cu.
18-61	18-12	6		6	None	A, C = Ir.; B, D = Con.; E = Ch.; F = Al.
18-62	18-12	6		6	None	A, B, C = Ir.; D, E, F = Con.
18-63	18-15	4	4		None	A, C = Con.; B, D = Cu.
18-65	18-12	6		6	None	A = Ir.; B = Con.; Balance = Cu.
18-66	18-1	10		10	None	A, C, E, G, I = Cu.; B, D, F, H, J = Con.
18-67	18-12	6		6	None	A, C, E = Cu.; B, D, F = Con.
18-68	18-11	5	5		None	A, D = Al.; B, C = Ch.; E = Cu.
18-69	18-1	10		10	None	A = Al.; B = Ch.; Balance = Cu.
18-70	18-11	5	5		None	A = Ir.; B = Con.; C = Ch.; D = Al.; E = Cu.
18-71	18-15	4	4		None	A = Con.; Balance = Cu.
18-72	18-15	4	4		None	D = Con.; Balance = Cu.
18-73	18-9	7	2	5	None	A = Al.; D = Ch.; Balance = Cu.
18-74	18-12	6		6	None	A = Ch.; B = Al.; D = Ir.; E = Cu.; C, F = Con.
20-52	20-4	4	4		315°	A = Ir.; B = Con.; C = Ch.; D = Al.
20-56	20-7	8		8	45°	A, B, G, H = Ir.; C, D, E, F = Con.
20-60	20-7	8		8	45°	D = Ch.; E = Al.; Balance = Cu.
20-61	20-29	17		17	45°	A, B, M = Cu.; Balance = Con.
20-62	20-15	7	7		80°	A, C, E = Al.; B, D, F = Ch.; G = Cu.
20-64	20-27	14		14	None	A = Al.; C = Ch.; Balance = Cu.

Thermocouple contact arrangements

Shell Size and Arrg.	Similar to MS Arrg.	Total Contacts	Contact Size		Pin Insert Rotation C W	Contact Material
			12	16		
20-65	20-27	14		14	None	A, B, C, D, E, F, G = Ir.; H, I, J, K, L, M, N = Con.
20-67	20-16	9	2	7	None	H = Al.; I = Ch.; Balance = Cu.
20-68	20-7	8		8	None	A, B, G, H = Con.; C, D, E, F = Cu.
20-69	20-27	14		14	None	A, B, C, D, E, F, G = Cu.; H, I, J, K, L, M, N = Con.
20-70	20-29	17		17	None	A, C, E, G, J, L, N, R, T = Ir.; B, D, F, H, K, M, P, S = Con.
20-71	20-29	17		17	None	S = Al.; R = Ch.; Balance = Cu.
20-74	20-29	17		17	None	A, C, E, G, J, L, N, R = Ir.; B, D, F, H, K, M, P, S = Con.; T = Cu.
20-75	20-15	7	7		None	G = Al.; Balance = Ch.
20-77	20-16	9	2	7	None	A = Con.; Balance = Std.
20-80	20-27	14		14	None	A, C, E, G, I, K, M = Cu.; B, D, F, H, J, L, N = Con.
20-81	20-27	14		14	None	A, C, E, G, I, K, M = Ch.; B, D, F, H, J, L, N = Al.
20-82	20-29	17		17	None	A, C, E, G, J, L, N, R = Al.; B, D, F, H, K, M, P, S = Ch.; T = Cu.
22-36	22-23	8	8		347°	A, C, E, G = Ir.; B, D, F, H = Con.
22-57	22-14	19		19	45°	A, C, E, G, J, L, N, R = Ir.; B, D, F, H, K, M, P, S = Con.; T, U, V = Cu.
22-60	22-14	19		19	45°	U = Al.; N = Ch.; Balance = Cu.
22-62	22-23	8	8		60°	A, B, F, G = Al.; C, D, E, H = Ch.
22-68	22-19	14		14	45°	A, C, E, G, J, L, M = Ir.; B, D, F, H, K, P, N = Con.
22-69	22-19	14		14	45°	A, C, E, G, J, L, M = Cu.; B, D, F, H, K, P, N = Con.
22-71	22-14	19		19	None	V = Al.; U = Ch.; Balance = Cu.
22-72	22-5	6	2	4	None	B = Al.; E = Ch.; Balance = Cu.
22-73	22-5	6	2	4	None	E = Al.; B = Ch.; Balance = Cu.
22-74	22-23	8	8		None	A, C, E, G = Ir.; B, D, F, H = Con.
22-75	22-23	8	8		None	A = Al.; B, D, G, H = Cu.; C = Ch.; E = Ir.; F = Con.
22-76		21		21	None	W = Con.; Balance = Cu.
22-77	22-19	14		14	None	B, D, F, H, J, K, M, P = Cu.; A, E, L = Ir.; C, G, N = Con.
22-78	22-14	19		19	None	A, C, E, G, H, K, M, P, R, T = Con.; Balance = Cu.
22-79	22-10	4		4	None	A, C, = Con.; B, D = Cu.
24-56	24-20	11	2	9	45°	E = Al.; F = Ch.; Balance = Cu.
24-57	24-28	24		24	45°	A, C, J, V, Y, W, K, E, H, U, S, M = Ch.; Balance = Al.
24-62	24-28	24		24	None	A, C, E, G = Ir.; B, D, F, H = Con.; R, T = Ch.; S, U = Al.; Balance = Cu.
24-63	24-28	24		24	None	A, C, E, G, J, L, K, N, S, U, W, Y = Cu.; B, D, F, H, Q, R, M, P, T, V, X, Z = Con.
24-64	24-5	16		16	None	A, B, C, D, E, F, G, H = Ir.; J, K, L, M, N, P, R, S = Con.
24-68	24-28	24		24	None	D = Con.; Balance = Cu.
24-81	24-7	16	2	14	None	A, C, E, G, I, K, M, N, P = Cu.; B, D, F, H, J, L, O = Con.
28-53	28-11	22	4	18	45°	J, L = Al.; K, M = Ch.; Balance = Cu.
28-58	28-20	14	10	4	45°	A, C, E, G, K, M = Al.; B, D, F, H, L, N = Ch.; J, P = Cu.
28-61	28-21	37		37	45°	A, C, J, Z, m, r, n, a, K, F, H, X, k, h, T, M, N, d = Ir.; Balance = Con.
28-63	28-20	14	10	4	45°	A, C, E, G, J = Al.; B, D, F, H, P = Ch.; Balance = Cu.
28-64	28-15	35		35	None	A, d = Al.; B, j = Ch.; C, D, E, F, G, N, P, R, S, H, J, K, L, M, W, X, Y, Z = Con.; Balance = Cu.
28-65	28-12	26		26	None	A, C, E, G, J, L, N, R, T, V = Ir.; X, Z = Al.; B, D, F, H, K, M, P, S, U, W = Con.; Y, a = Ch.; b, d = Cu.
28-67	28-16	20		20	None	U = Con.; Balance = Cu.
28-68	28-15	35		35	45°	T = Al.; U = Ch.; Balance = Cu.

