

**A SERIES**

MIL-C-5015 Hermetic connectors were developed for application where a controlled atmosphere such as inert gasses, partial vacuums, or constant environments are needed. These receptacles are designed for use in electronic, electrical power, and control circuits.

The "A" Series receptacles are manufactured to American Micro Products, Inc. (AMPI / ACE) standards and meet the intermateability requirements of MIL-C-5015 as defined by MS33678. They are hermetically sealed with individual compression glass seals around each contact to prevent air leakage, in excess of .1 micron cubic foot per hour at one atmosphere.

Standard hermetic receptacles are supplied with either solder cup or eyelet type contact terminations. Contacts for other applications such as thermocouple or flex prints are also available. Standard receptacles are steel shells with nickel-iron alloy contacts and a final coat of tin plate. Other materials and finishes can be supplied to meet specific application requirements.

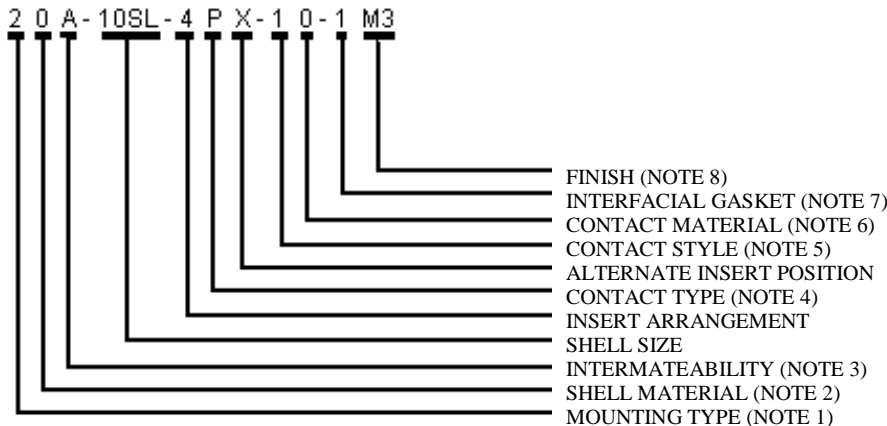
"A" Series receptacles meet the instrumentation voltage requirements of MIL-C-5015. Connector receptacles with higher voltage ratings are available upon request. Connectors are designed to meet salt spray, shock, and vibration requirements of MIL-C-5015.

**ELECTRICAL SERVICE DATA**

The maximum current to be carried by the connector based, on contact size, is the same as permitted by the wire bundle. Maximum current ratings and corresponding voltage drops under test condition, fully assembled, are shown below.

CONTACT SIZE	TEST CURRENT (AMPS)	POTENTIAL DROP (MILLIVOLTS)
16	10	125
12	17	125
8	33	125
4	60	125
0	100	125

**PART NUMBER EXPLANATION**



**STANDARD MATERIALS AND FINISHES**

**FERROUS ALLOY SHELLS**

Material: Cold Rolled Steel per ASTM 108  
Finish: Tin per MIL-T-10727, type I over copper per MIL-C-14550

**Stainless Steel Shells**

Material: Corrosion resistant steel per QQ-S-764, type 303 or as specified.  
Finish: Passivated.

**CONTACTS**

Material: Nickel-iron alloy per MIL-I-23011, class 2.  
Finish: a. -Ferrous alloy shells; tin per MIL-T-10727, type I over copper per MIL-C-14550.  
b.—Stainless steel shells; 50 microinches minimum gold per MIL-G-45204 over suitable underplate.

**INSERTS**

Material: Glass.

**INTERFACIAL GASKETS**

Material: Fluorosilicone rubber.

DESCRIPTION	MILITARY DESIGNATION	AMPI DESIGNATION
BOX MOUNT	MS3142HS*C*P	31A-*P-20
	MS3142HS*Y*P	31A-*P-10
	MS3142HT*C*P	30A-*P-20
	MS3142HT*Y*P	30A-*P-10
SOLDER MOUNT CIRCULAR FLANGE	MS3143HS*C*P	21A-*P20
	MS3143HS*Y*P	21A-*P10
	MS3143HT*C*P	20A-*P20
	MS3143HT*Y*P	20A-*P10
SOLDER MOUNT FLANGELESS	NO CLASS	10A-*P20
	H SPECIFIED	10A-*P10
MATING PLUG	MS3106-MS3406-MS3456	

**HIGH POTENTIAL TEST VOLTAGE**

When specified, receptacles can be supplied to meet the requirements of MIL-C-5015. Standard Receptacles are supplied to the Instrument Voltage rating. Consult factory for available tooling.

SERVICE RATING	TEST VOLTAGE (RMS 60 CPS)
INSTRUMENT	1000
A	2000
D	2800
E	3500
B	4500
C	7000

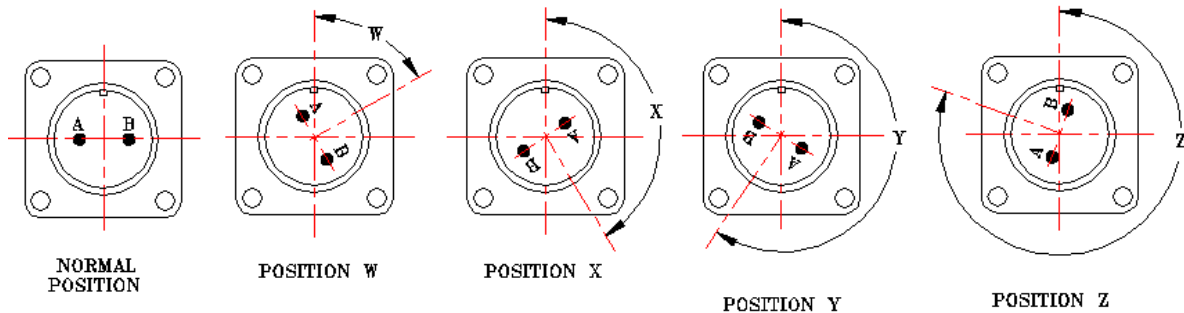
**NOTES:**

- 1.-- 1-- Flangeless solder mount.
- 2-- Circular flange solder mount
- 3-- Square flange box mount
- 2.-- 0-- Ferrous alloy
- 1 thru 7- various stainless steel #303 thru #347
- 3.-- MIL-C-5015 intermateability
- 4.-- P-- Pin
- 5.-- 1-- Eyelet
- 2-- Solder cup
- 3-- Short solder cup
- 6.-- 0-- Nickel-iron alloy
- 7.-- Blank-- Without interfacial gasket
- 8.-- A1-- Fused tin over copper (25 hour salt spray)
- M3-- Fused tin over copper over nickel with gold on contacts
- M2--Contacts gold with shell passivated

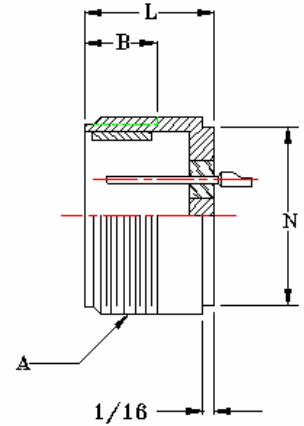
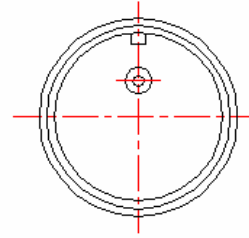
INDEX OF INSERT ARRANGEMENTS MIL-STD-1651

INSERT ARRANGEMENT	TOTAL CONTACTS	SERVICE RATING	CONTACT SIZE					ALTERNATE INSERT POSITIONS (DEGREES)			
			16	12	8	4	0	W	X	Y	Z
10SL-3	3	A	3								
10SL-4	2	A	2								
12S-3	2	A	2					70	145	215	290
12S-10	4	A	4								
14S-2	4	INSTRUMENT	4					120	240		
14S-5	5	INSTRUMENT	5					110			
14S-6	6	INSTRUMENT	6								
14S-7	3	A	3					90	180	270	
14S-9	2	A	2					70	145	215	290
16S-1	7	A	7					80			280
16S-5	3	A	3					70	145	215	290
16S-8	5	A	5						170	265	
16-9	4	A	2	2				35	110	250	325
16-10	3	A		3				90	180	270	
16-11	2	A		2				35	110	250	325
18-1	10	A FOR PINS: B,C,F&G INSTRUMENT FOR BALANCE	10					70	145	215	290
18-4	4	D	4					35	110	250	325
18-8	8	A	7	1				70			290
18-9	7	INSTRUMENT	5	2				80	110	250	280
18-11	5	A		5					170	265	
20-4	4	D		4				45	110	250	
20-14	5	A		3	2			80	110	250	280
20-15	7	A		7				80			280
20-16	9	A	7	2				80	110	250	280
20-22	6	A	3		3			80	110	250	280
20-24	4	A	2		2			35	110	250	325
20-27	14	A	14					35	110	250	325
20-29	17	A	17					80			280
20-33	11	A	11								
22-14	19	A	19					80	110	250	280
22-22	4	A			4				110	250	
22-27	9	D FOR PIN J. A FOR BALANCE	8		1			80		250	280
22-36	8	D FOR PIN H. A FOR BALANCE		8				90		270	
24-2	7	D		7				80			280
24-7	16	A	14	2				80	110	250	280
24-10	7	A			7			80			280
24-28	24	INSTRUMENT	24					80	110	250	280
28-1	9	D FOR PINS A,E & J. A FOR BALANCE		6	3			80	110	250	280
28-12	26	A	26					90	180	270	
28-17	15	B FOR PIN R. D FOR PINS:M,N,&P. A FOR BALANCE	15					80	110	250	280

ALTERNATE INSERT POSITIONS  
FRONT FACE OF PIN INSERT SHOWN



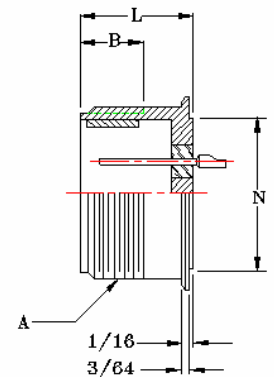
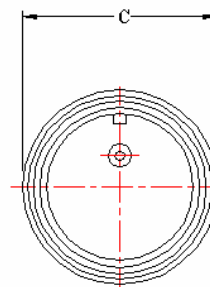
**FLANGELESS SOLDER MOUNT  
10A RECEPTACLES**



SHELL SIZE	PART NUMBER	A THREAD CLASS 2A	B MIN THD	L + .005 - .010	N +.000 -.010
8S	10A-8S-(*P▼-(**))	0.500-28 UNEF	0.375	0.718	0.437
10SL	10A-10SL-(*P▼-(**))	0.625-24 UNEF			0.500
12S	10A-12S-(*P▼-(**))	0.750-20 UNEF			0.656
14S	10A-14S-(*P▼-(**))	0.875-20 UNEF			0.718
16S	10A-16S-(*P▼-(**))	1.000-20 UNEF			0.844
16	10A-16-(*P▼-(**))	1.000-20 UNEF	0.625	0.906	0.844
18	10A-18-(*P▼-(**))	1.125-18 UNEF			0.968
20	10A-20-(*P▼-(**))	1.250-18 UNEF			1.156
22	10A-22-(*P▼-(**))	1.375-18 UNEF			1.250
24	10A-24-(*P▼-(**))	1.500-18 UNEF			1.375
28	10A-28-(*P▼-(**))	1.750-18 UNS			1.625
32	10A-32-(*P▼-(**))	2.000-18 UNS			1.875

▼REPLACE WITH ALTERNATE INSERT POSITION INDICATOR INDICATOR NOT REQUIRED FOR NORMAL POSITION    /(\*) REPLACE WITH PIN ARRANGEMENT    /(\*\*) REPLACE WITH CONTACT STYLE AND MATERIAL

**CIRCULAR FLANGE SOLDER MOUNT  
20A RECEPTACLES (REF. MS3143)**

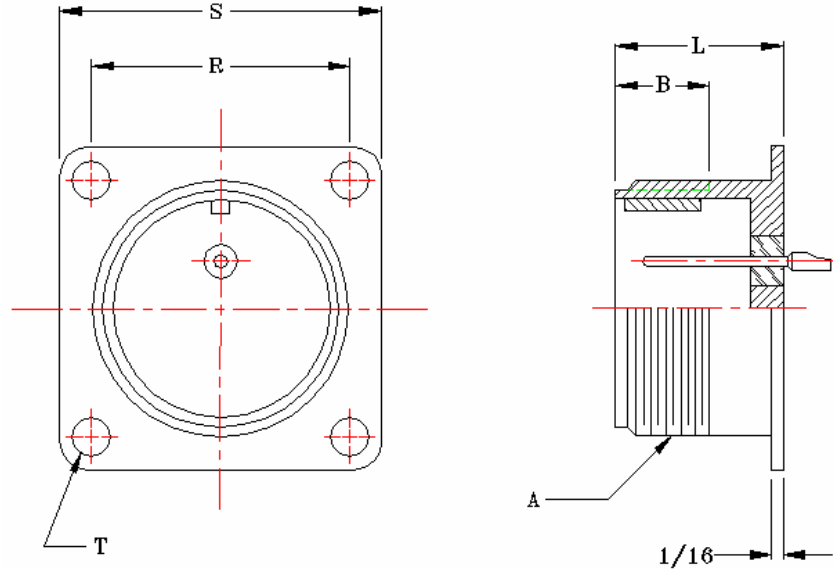


SHELL SIZE	PART NUMBER	A THREAD CLASS 2A	B MIN THD	C + .010 - .010	L +.005 -.010	N +.000 -.010
8S	20A-8S-(*P▼-(**))	0.500-28 UNEF	0.375	0.750	0.718	0.437
10SL	20A-10SL-(*P▼-(**))	0.625-24 UNEF				0.875
12S	20A-12S-(*P▼-(**))	0.750-20 UNEF				1.000
14S	20A-14S-(*P▼-(**))	0.875-20 UNEF				1.125
16S	20A-16S-(*P▼-(**))	1.000-20 UNEF				1.250
16	20A-16-(*P▼-(**))	1.000-20 UNEF	0.625	0.906	0.906	0.844
18	20A-18-(*P▼-(**))	1.125-18 UNEF				1.250
20	20A-20-(*P▼-(**))	1.250-18 UNEF				1.375
22	20A-22-(*P▼-(**))	1.375-18 UNEF				1.500
24	20A-24-(*P▼-(**))	1.500-18 UNEF				1.625
28	20A-28-(*P▼-(**))	1.750-18 UNS				1.750
32	20A-32-(*P▼-(**))	2.000-18 UNS				2.000
				2.250		1.875

▼REPLACE WITH ALTERNATE INSERT POSITION INDICATOR INDICATOR NOT REQUIRED FOR NORMAL POSITION    /(\*) REPLACE WITH PIN ARRANGEMENT    /(\*\*) REPLACE WITH CONTACT STYLE AND MATERIAL



### BOX MOUNT 30A RECEPTACLES (REF. MS3142)



SHELL SIZE	PART NUMBER	A THREAD CLASS 2A	B MIN THD	L +0.005 -0.010	R +0.005 -0.005	S +0.031 -0.031	T +0.005 -0.005
8S	30A-8S-(*)P▼-(**)	0.500-28 UNEF	0.375	0.718	0.594	0.875	0.120
10SL	30A-10SL-(*)P▼-(**)	0.625-24 UNEF			0.718	1.000	
12S	30A-12S-(*)P▼-(**)	0.750-20 UNEF			0.812	1.094	
14S	30A-14S-(*)P▼-(**)	0.875-20 UNEF			0.906	1.188	
16S	30A-16S-(*)P▼-(**)	1.000-20 UNEF			0.968	1.281	
16	30A-16-(*)P▼-(**)	1.000-20 UNEF	0.625	0.906	0.968	1.281	0.147
18	30A-18-(*)P▼-(**)	1.125-18 UNEF			1.062	1.375	
20	30A-20-(*)P▼-(**)	1.250-18 UNEF			1.156	1.500	
22	30A-22-(*)P▼-(**)	1.375-18 UNEF			1.250	1.625	
24	30A-24-(*)P▼-(**)	1.500-18 UNEF			1.375	1.750	
28	30A-28-(*)P▼-(**)	1.750-18 UNS			1.562	2.000	
32	30A-32-(*)P▼-(**)	2.000-18 UNS			1.750	2.25	

▼ REPLACE WITH ALTERNATE INSERT POSITION INDICATOR  
INDICATOR NOT REQUIRED FOR NORMAL POSITION

/(\*) REPLACE WITH PIN ARRANGEMENT

/(\*\*) REPLACE WITH CONTACT STYLE AND MATERIAL