C SERIES

MIL-C-38999 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 aerospace, electronic, electrical power, and control circuits.

The “C” Series receptacles are manufactured to American Micro Products, Inc. (AMPI / ACE) standards and meet the intermateability requirements of MIL-C-38999 Series II. They are hermetically sealed with an all glass seal to prevent air leakage in excess of .01 micron cubic foot per hour at one atmosphere. They are manufactured with conductive finishes to provide electrical continuity between mated halves prior to contact engagement. These connectors are manufactured in the low silhouette design to minimize weight and size.

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 gold plated nickel-iron alloy contacts or stainless steel shells with gold plated contacts. Other materials and finishes can be supplied to meet specific application requirements.

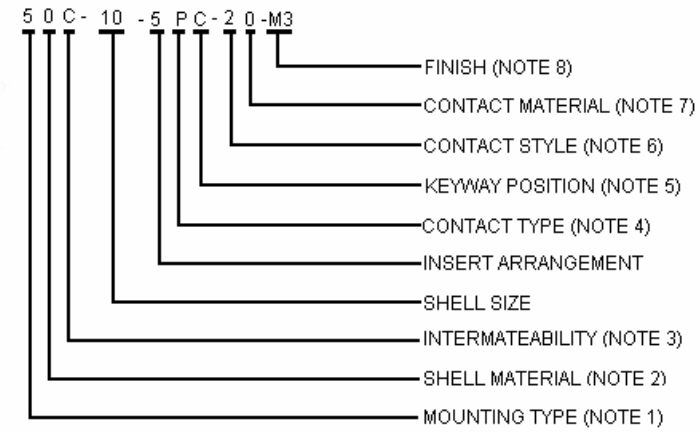
“C” Series receptacles meet the, voltage, salt spray, shock, and vibration requirements of MIL-C-38999.

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)
22D	2	85
20	5	60
16	10	85
12	17	85

PART NUMBER EXPLANATION



STANDARD MATERIALS AND FINISHES

FERROUS ALLOY SHELLS

Material: Cold Rolled Steel per ASTM 108
Finish: 100 microinches minimum fused tin per MIL-T-10727 over suitable underplate

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: 50 microniches minimum gold per MIL-G-45204 over a suitable underplate

INSERTS PINS

Material: Fluorosilicone rubber

INTERFACIAL SEALS

Material: Glass

BAYONET PINS

Material: Corrosion resistant steel per QQ-S-764 type 303

DESCRIPTION	MILITARY DESIGNATION	AMPI DESIGNATION
BOX MOUNT	MS27476Y*D*P	30C-*-*P-20
	MS27476Y*D*X	30C-*-*P-10
	MS27476Y*E*P	31C-*-*P-20
	MS27476Y*E*X	31C-*-*P-10
JAM NUT MOUNT	MS27477Y*D*P	50C-*-*P-20
	MS27477Y*D*X	50C-*-*P-10
	MS27477Y*E*P	51C-*-*P-20
	MS2747Y*E*X	51C-*-*P-10
SOLDER MOUNT	MS27478Y*D*P	20C-*-*P-20
	MS27478Y*D*X	20C-*-*P-10
	MS27478Y*E*P	21C-*-*P-20
	MS27478Y*E*X	21C-*-*P-10
MATING PLUG	MS27473 - MS27484	

HIGH POTENTIAL TEST VOLTAGE

SERVICE RATING	TEST VOLTAGE (RMS 60 CPS)
M	1300
I	1800
II	2300

NOTES:

1.-- 2-- Circular flange solder mount
3-- Square flange box mount
5-- Jam nut mount
2.-- 0-- Ferrous alloy
1 thru 7- various stainless steel #303 thru #347
3.-- MIL-C-38999 series I intermateability
4. -- P-- Pin
5.-- Alternate keyway position
6.-- 1-- Eyelet
2-- Solder cup
7.-- 0-- Nickel-iron alloy
8.– M3-- Fused tin over copper over nickel with Gold on contacts
M2-- Contacts gold with shell passivated

DENELEX
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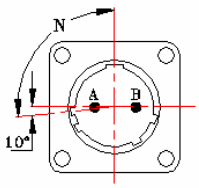
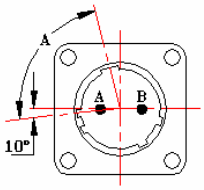
INDEX OF INSERT ARRANGEMENTS MIL-STD-1560

SHELL SIZE	INSERT ARRANGE-MENT	TOTAL CONTACTS	CONTACT SIZE				SERVICE RATING
			22	20	16	12	
8	35	6	6				M
	98	3		3			I
10	5	5		5			I
	35	13	13				M
	98	6		6			I
	99	7		7			I
12	4	4			4		II
	8	8		8			I
	35	22	22				M
	98	10		10			I
14	5	5			5		II
	15	15		14	1		I
	18	18		18			I
	19	19		19			I
	35	37	37				M
	97	12		8	4		I
16	8	8			8		II
	26	26		26			I
	35	55	55				M
18	30	30		29	1		I
	32	32		32			I
	35	66	66				M
20	16	16			16		II
	35	79	79				M
	39	39		37	2		I
	41	41		41			I
22	35	100	100				M
24	35	128	128				M
	61	61		61			I

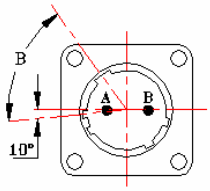
MASTER KEYWAY POSITIONS
FRONT FACE OF PIN INSERT SHOWN



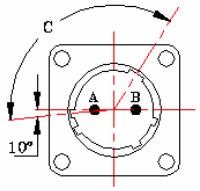
NORMAL POSITION



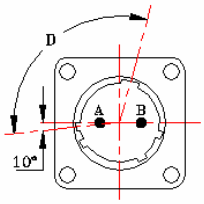
POSITION A



POSITION B



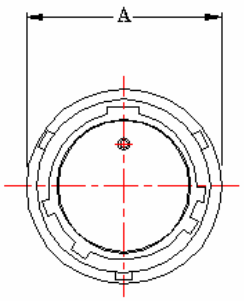
POSITION C

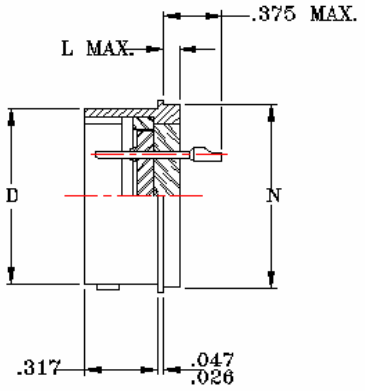


POSITION D

SHELL SIZE	NORMAL POSITION	LOCATION OF ALTERNATE MASTER KEYWAY POSITION IN DEGREES			
	N	A	B	C	D
8	100	82	-	-	118
10		86	72	128	114
12		80	68	132	120
14		79	66	134	121
16		82	70	130	118
18		82	70	130	118
20		82	70	130	118
22		85	74	126	115
24		85	74	126	115

SOLDER MOUNT
20C RECEPTACLES (REF. MS27478)

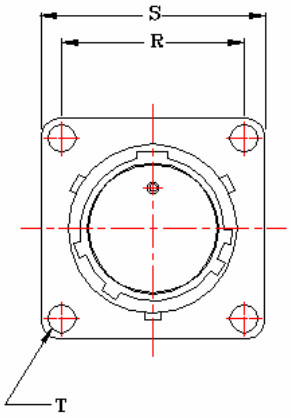


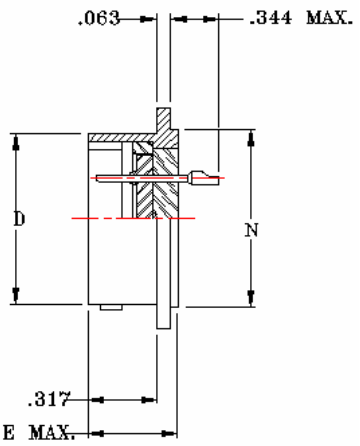


SHELL SIZE	PART NUMBER	A +.011 -.010	D +.001 -.005	L MAX	N +.001 -.005
8	20C-8-(*)P▼-(**)	0.687	0.473	0.125	0.562
10	20C-10-(*)P▼-(**)	0.797	0.590		0.672
12	20C-12-(*)P▼-(**)	0.906	0.750		0.781
14	20C-14-(*)P▼-(**)	1.031	0.875		0.906
16	20C-16-(*)P▼-(**)	1.156	1.000		1.031
18	20C-18-(*)P▼-(**)	1.281	1.125		1.156
20	20C-20-(*)P▼-(**)	1.375	1.250		1.250
22	20C-22-(*)P▼-(**)	1.500	1.375	0.156	1.375
24	20C-24-(*)P▼-(**)	1.625	1.500		1.500

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

BOX MOUNT
30C RECEPTACLES (REF. MS27476)

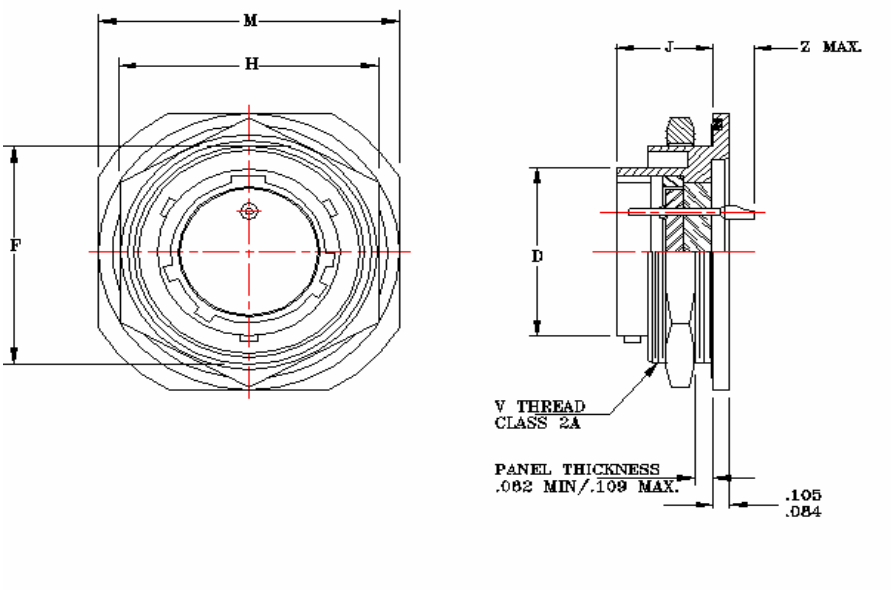




SHELL SIZE	PART NUMBER	D +.001 -.005	E MAX	N -.001 -.005	R +.005 -.005	S +0.015 -0.015	T +0.01 -0.005
8	30C-8-(*)P▼-(**)	0.473	0.453	0.562	0.594	0.812	0.128
10	30C-10-(*)P▼-(**)	0.590		0.672	0.719	0.938	
12	30C-12-(*)P▼-(**)	0.750		0.781	0.812	1.031	
14	30C-14-(*)P▼-(**)	0.875		0.906	0.906	1.125	
16	30C-16-(*)P▼-(**)	1.000		1.031	0.969	1.219	
18	30C-18-(*)P▼-(**)	1.125		1.156	1.062	1.312	
20	30C-20-(*)P▼-(**)	1.250		1.250	1.156	1.438	
22	30C-22-(*)P▼-(**)	1.375	0.484	1.375	1.250	1.562	0.147
24	30C-24-(*)P▼-(**)	1.500		1.500	1.375	1.688	

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

JAM NUT MOUNT
50C RECEPTACLES (REF. MS27477)



SHELL SIZE	PART NUMBER	D +0.001 -0.005	F +.001 -.006	H +.016 -.016	J +.005 -.005	M +.016 -.016	V THREAD CLASS 2A	Z MAX
8	50C-8-(*)P▼-(**)	0.473	0.817	1.062	0.438	1.250	.8750-20 UNEF	0.281
10	50C-10-(*)P▼-(**)	0.590	0.941	1.188		1.375	1.0000-20 UNEF	
12	50C-12-(*)P▼-(**)	0.750	1.065	1.312		1.500	1.1250-18 UNEF	
14	50C-14-(*)P▼-(**)	0.875	1.190	1.438		1.625	1.2500-18 UNEF	
16	50C-16-(*)P▼-(**)	1.000	1.320	1.562		1.781	1.3750-18 UNEF	
18	50C-18-(*)P▼-(**)	1.125	1.440	1.688		1.890	1.5000-18 UNEF	
20	50C-20-(*)P▼-(**)	1.250	1.565	1.812	0.464	2.016	1.6250-18 UNEF	0.250
22	50C-22-(*)P▼-(**)	1.375	1.690	2.000		2.140	1.7500-18 UNS	
24	50C-24-(*)P▼-(**)	1.500	1.815	2.125		2.265	1.8750-16 UN	

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