

Cannon has re-introduced the widely used MS A&B product line with improved features. For corrosion protection we have changed the shell finish to an environmentally safe, zinc alloy plating. The plating is a high quality finish and uniform in color. The contacts, which are preloaded in the insulator, have been redesigned such that the solder cups remain in proper orientation and will not rotate during wiring termination. The contacts are also machined for strength and durability and plated with silver. The Cannon MS A&B design meets the performance requirements of the MIL-C-5015. The product is available in all the popular sizes and configurations in Class A (solid end bell) and Class B (split end bell versions).

### Applications:

- Industrial Controls
- Test Equipment
- Traffic Signals
- Bus Systems



For more information: [www.ittcannon.com/cat107](http://www.ittcannon.com/cat107)

### Product Features and Benefits

- High strength aluminum alloy connector
- High strength plastic insulators
- Environmentally safe shell finishes
- Protected against corrosion
- High quality plating finish
- Threaded coupling
- Product is tooled and available in 50 insert patterns
- Machined contacts
- Low cost

### Performance Specifications

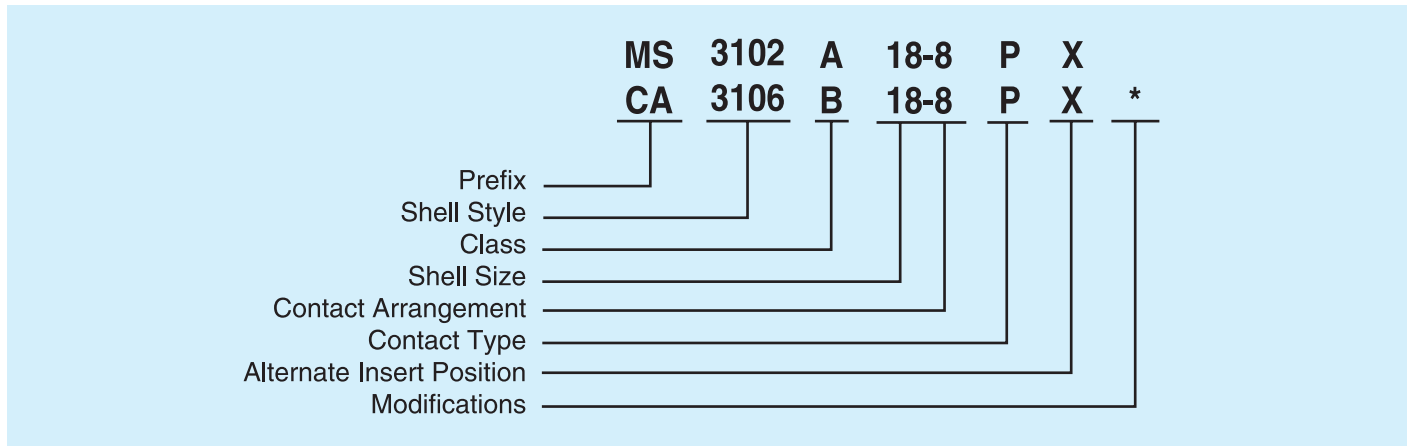
Temperature Range:	-55°C to 125°C (-67°F to 257°F)
Current Rating:	13 A to 150 A*
Durability:	500 mating cycles min.
Wire Accommodation:	0 to 20 AWG*
No. of Contacts:	2 to 48
Termination:	Solder

\*Depending on contact size.

### Materials and Finishes

Description	Material	Finish
Shell	Aluminum Alloy	Green Zinc or Black Zinc
Insulator	Hard Plastic	—
Contact	Brass or Copper Alloy	Silver

How to Order



**SERIES PREFIX**

MS – Complies with Military Specification MIL-C-5015

CA – Cannon prefix indicating special application or variation of MS

**SHELL STYLE**

3100 – Wall Mounting Receptacle (A version only)

3101 – Cord Connector Plug (A version only)

3102 – Box Mounting Receptacle

3106 – Straight Plug

3108 – 90° Angle Plug (B version only)

**CLASS**

A – Solid or one-piece endbell

B – Split or two-piece endbell

**SHELL SIZE**

Coupling thread diameter in sixteenths of an inch

**CONTACT ARRANGEMENTS**

Refer to page 3

**CONTACT TYPE**

P – Pin

S – Socket

**ALTERNATE INSERT POSITIONS**

Refer to page 4

**MODIFICATIONS**

Contact Cannon for other options.

 For more information, please contact your local Cannon sales office.

Accessories

Cable clamps are available in both the environmentally safe green zinc and black zinc, and will accommodate shell sizes 10SL-36. Double clamping action provides a balanced, positive hold on the wires and greatly reduces moisture transmission, a real benefit in applications that require environmental sealing. This clamp is provided with the bushing.

Shell Size	Part Number Green Zinc	Part Number Black Zinc
10SL, 12S	CA17711-111	CA17711-103
14S	CA17711-112	CA17711-104
16S, 16	CA17711-113	CA17711-101
18	CA17711-114	CA17711-102
20, 22	CA17711-115	CA17711-22
24, 28	CA17711-116	CA17711-105
32	CA17711-117	CA17711-106
36	CA17711-118	CA17711-107



Contact Cavity Arrangements

10SL-3 3 - #16

10SL-4 2 - #16

12S-3 2 - #16

14S-1 3 - #16

14S-2 4 - #16

14S-5 5 - #16

14S-6 6 - #16

14S-7 3 - #16

14S-9 2 - #16

16-9 2 - #16 (B, D)  
2 - #12 (A, C)

16-10 3 - #12

16-11 2 - #12

16S-1 7 - #16

16S-8 5 - #16

18-1 10 - #16

18-4 4 - #16

18-5 1 - #16 (A)  
2 - #12 (B, C)

18-8 7 - #16 (A-G)  
1 - #12 (H)

18-9 5 - #16 (B, C, E-G)  
2 - #12 (A, D)

18-10 4 - #12

18-11 5 - #12

18-12 6 - #16

18-20 5 - #16

18-22 3 - #16

20-3 3 - #12

20-4 4 - #12

20-7 8 - #16

20-19 3 - #8

20-27 14 - #16

20-29 17 - #16

20-33 11 - #16

22-2 3 - #8

22-14 19 - #16

22-19 14 - #16

22-23 8 - #12

22-28 7 - #12

24-2 7 - #12

24-10 7 - #8

24-20 9 - #16 (A-D, G-L)  
2 - #12 (E, F)

24-28 24 - #16

28-10 3 - #12 (A, F, G)  
2 - #8 (B, E)  
2 - #4 (C, D)

28-11 18 - #16 (A-I, N-X)  
4 - #12 (J-M)

28-12 26 - #16

28-15 35 - #16

28-16 20 - #16

28-21 37 - #16

36-5 4 - #0

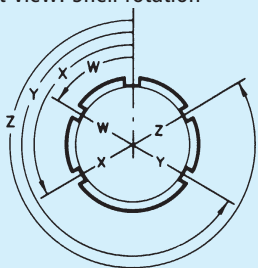
36-7 40 - #16 (A-Z, a-s)  
7 - #12 (t-z)

36-8 46 - #16 (A-X, Z-z)  
1 - #12 (Y)

36-10 48 - #16

Alternate Insert Positions

Pin front view: Shell rotation



Contact Arrangement	W°	X°	Y°	Z°
10SL-3	—	—	—	—
10SL-4	—	—	—	—
12S-3	70	145	215	290
14S-1	—	—	—	—
14S-2	—	120	240	—
14S-5	—	110	—	—
14S-6	—	—	—	—
14S-7	90	180	270	—

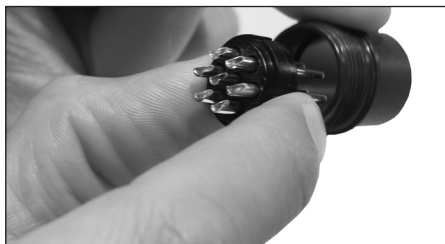
Contact Arrangement	W°	X°	Y°	Z°
14S-9	70	145	215	290
16-9	35	110	250	325
16-10	90	180	270	—
16-11	35	110	250	325
16S-1	80	—	—	280
16S-8	—	170	265	—
18-1	70	145	215	290
18-4	35	110	250	325
18-5	80	110	250	280
18-8	70	—	—	290
18-9	80	110	250	280
18-10	—	120	240	—
18-11	—	170	265	—
18-12	80	—	—	280
18-20	90	180	270	—
18-22	70	145	215	290
20-3	70	145	215	290
20-4	45	110	250	—
20-7	80	110	250	280
20-19	90	180	270	—
20-27	35	110	250	325

Contact Arrangement	W°	X°	Y°	Z°
20-29	80	—	—	280
20-33	35	110	256	325
22-2	70	145	215	290
22-14	80	—	—	280
22-19	80	110	250	280
22-23	35	—	250	—
22-28	80	—	—	280
24-2	80	—	—	280
24-10	80	—	—	280
24-20	80	110	250	280
24-28	80	110	250	280
28-10	80	110	250	280
28-11	80	110	250	280
28-12	90	180	270	—
28-15	80	110	250	280
28-16	80	110	250	280
28-21	80	110	250	280
36-5	—	120	240	—
36-7	80	110	250	280
36-8	80	110	250	280
36-10	80	125	235	280

Assembly Instructions



Unassembled connectors are supplied in kits, an insulator kit and hardware kit. The insulator kit includes a snap ring and insulator with preloaded contacts. The hardware kit includes the shell along with appropriate endbell (except box mount receptacles) and coupling nut (plug only).



Step 1\*: Remove tape from insulator. With the insulator and shell positioned as shown above, polarize insulator to desired position and place inside shell using the internal keyway as guide. Once inside the shell, the insulator cannot rotate. However, until the snap ring is applied in step 2, the insulator is not captivated in the shell.



Step 2: After insulator is seated in shell, install the snap ring on the rear of the connector. Slightly compress ring and insert into recessed area just above the insulator. If not completely in place, manipulate the snap ring with finger until visual or audible seating confirmation is made. No tooling is required.

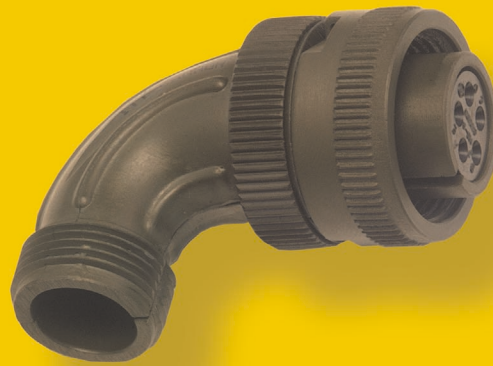


Step 3: Confirm insulator is fixed inside shell by applying slight force on the engaging side of the insulator. If properly installed, the insulator can not be pushed out the rear of the shell. If the insulator is displaced with this test, please repeat steps 1 and 2.



Step 4: Complete assembly by adding coupling nut and endbell. Please note that the coupling nut is used on the plug side only.

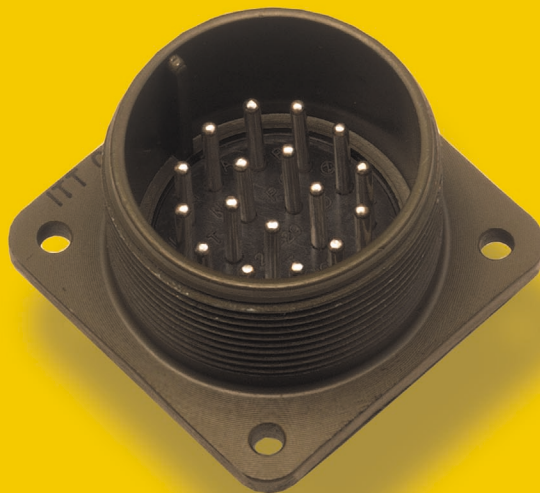
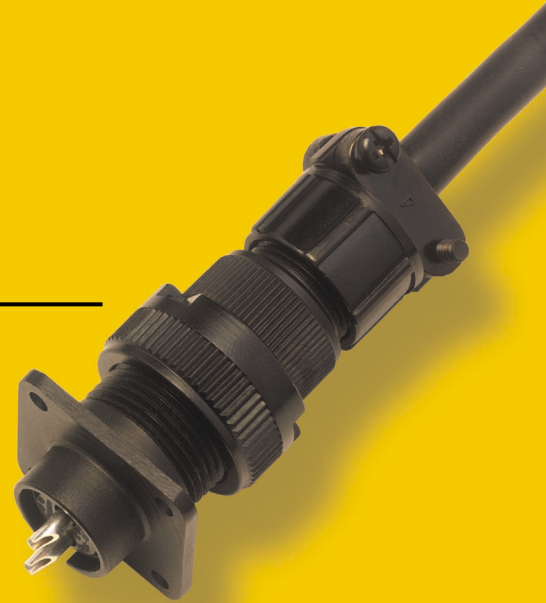
\*Note: During installation, ensure that all contacts remain fixed. If during this process the contacts rotate out of position, separate the 2 piece insulator and adjust accordingly.



## Industrial Connectors

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### CA/MS A&B



2001

Cannon



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