



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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ITT Cannon is the foremost manufacturer of MS and MS type connectors with the widest range of connector styles, sizes and variations in the industry. These connectors utilize the finest materials, which, along with precision manufacturing and rigid quality control, assure ITT Cannon customers of the finest quality connectors. The MS A & B product line has environmentally safe green and black zinc alloy plating. The Black

zinc plating is RoHS compliant. The plating is a high quality, uniform finish. The contact, which are preloaded in the insulator, have been redesigned such that the solder cups remain in the proper orientation and will not rotate during wiring termination. The contacts are 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 available in Class A (solid end bell) and Class B (split end bell) versions.

Applications:

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

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
- UL recognized

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.

ELECTRICAL SERVICE DATA

Test current ratings of contacts and allowable voltage drop under test conditions when assembled as in service are shown below. Maximum total current to be carried per connector is the same as the allowable in wire bundles as specified in MIL-W-5088.

Contact Size	Test Current (amps)	Potential Drop (millivolts)
16	13	49
12	23	42
8	46	28
4	80	23
0	150	21

HIGH POTENTIAL TEST VOLTAGE

MS connectors show no evidence of breakdown with the test voltage given below is applied between the two closest contacts and between the shell and the contacts closest to the shell for a period of one minute.

MS Service Rating	Test Voltage (RMS) 60 cps	Suggested* Operating Voltages		Air Spacing Nom. (inches)	Creepage Distance Nom. (inches)
		DC	AC (rms)		
Inst.	1000	250	200		1/16
A	2000	700	500	1/16	1/8
D	2800	1250	900	1/8	3/16
E	3500	1750	1250	3/16	1/4
B	4500	2450	1750	1/4	5/16
C	7000	4200	3000	5/16	1

*As indicated in previous MS Specification and to be used by designer only as a guide.

Materials and Finishes

Description	Material	Finish
Shell	Aluminum Alloy	Green Zinc Standard, Black Zinc (RoHS), OD CAD
Insulator	Hard Plastic	—
Contact	Brass or Copper Alloy	Silver





A

Circular

CA/MS 3100A wall mounting receptacles are used to carry wires through walls or bulkheads, or to provide the means of disconnection at a bulkhead. CA/MS 3100A receptacles mate with CA/MS 3106 and 3108 plugs.



CA/MS 3101A cable connecting receptacles are used for cable extension requirements where mounting provisions are unnecessary. CA/MS 3101A plugs mate with 3106A/B and 3108B connectors.



Note: The D revision of MIL-C-5015 has changed the nomenclature of the 3101 from receptacle to plugs.

CA/MS 3102A box mounted receptacles are used in junction boxes or as an integral part of equipment. CA/MS 3102A receptacles will mate with 3106 and 3108 plugs.



CA/MS 3106A straight plug utilizes a solid endbell. The CA/MS 3106A mates with 3100, 3101, and 3102 connectors



CA/MS 3106B is identical to the 3106A straight plug except it utilizes a split endbell. CA/MS 3106B mates with 3100, 3101, and 3102 connectors.



CA/MS 3108B 90° angle plugs are used where there is limited space and where wires must be brought at abrupt angles. This plug will mate with 3100, 3101, and 3102 connectors.

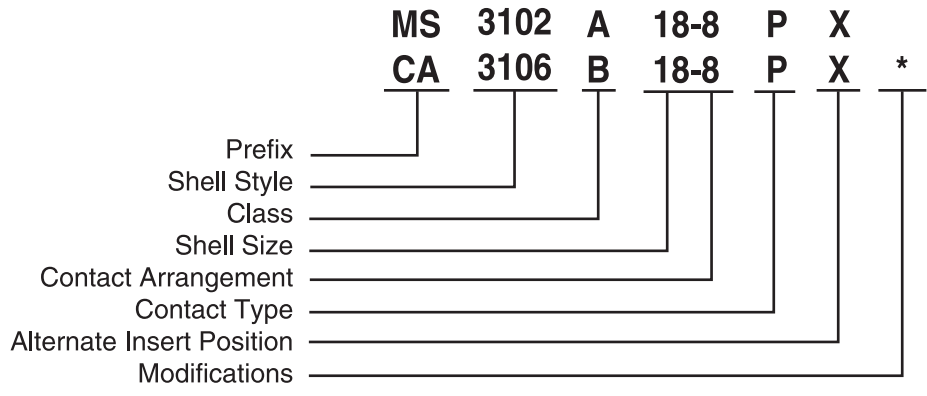




A

Circular

How to Order



SERIES PREFIX

- MS – Complies with Military Specification MIL-C-5015
- CA – Cannon prefix
- CAR – RoHS Compliant (Black Zinc Only)

SHELL STYLE

- 3100 – Wall Mounting Receptacle (A version only)
- 3101 – Cable Connector Receptacle (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 B-5

CONTACT TYPE

- P – Pin
- S – Socket

ALTERNATE INSERT POSITIONS

Refer to page 4

MODIFICATIONS

A206 (RoHS) Black Zinc Plating
Contact Cannon for other options.



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



Contact Cavity Arrangements



A

Circular

	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
Service Rating	A	A	A	A	Inst.	Inst.	Inst.	A	A	A	A	A
	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		
	A	A	A (B,C,F,G) Inst. (all others)	D	D	A	Inst.	A	A	A		
	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			
	A	D	D	D	A (C-F) D (A,B,G,F)	A	A	A	A			
	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)				
	D	A	A	D (H) A (all others)	A	D	A	D				
	24-28 24 - #16	28-10 3 - #12 (A, F, G) 2 - #8 (B, E) 2 - #4 (C, D) D (G) A (all others)	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					
	Inst.		A	A	A	A	A					
	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								
	A	A	A	A								

* 10SL is available in the following configurations only: 3100, 3101, 3102, pin contacts only and 3106 and 3108 socket contacts only

Dimensions shown in inches (mm)
Specifications and dimensions subject to change

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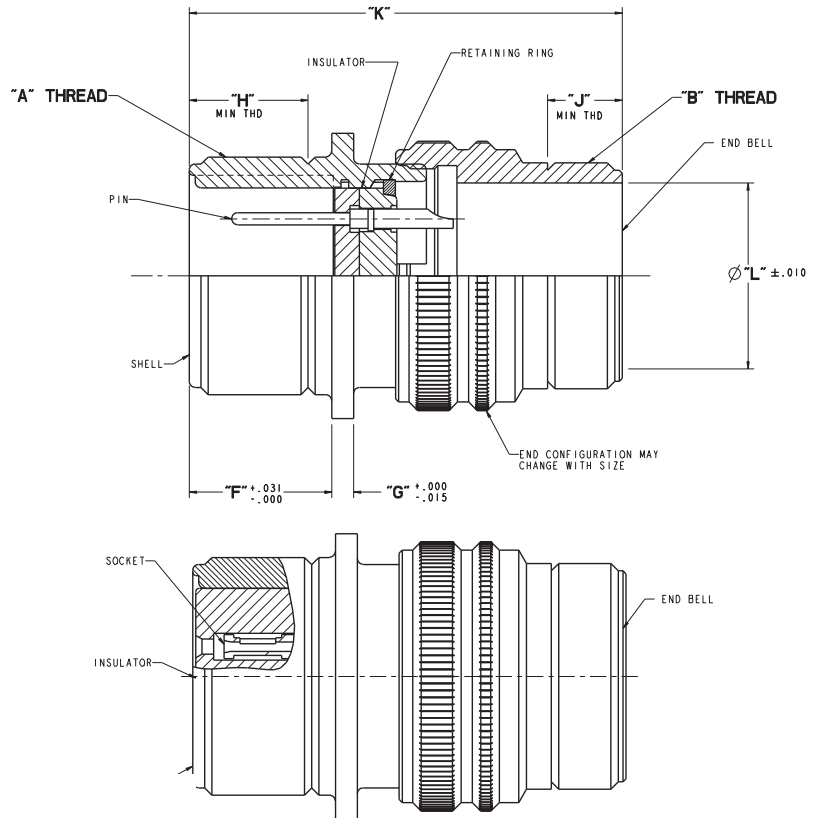
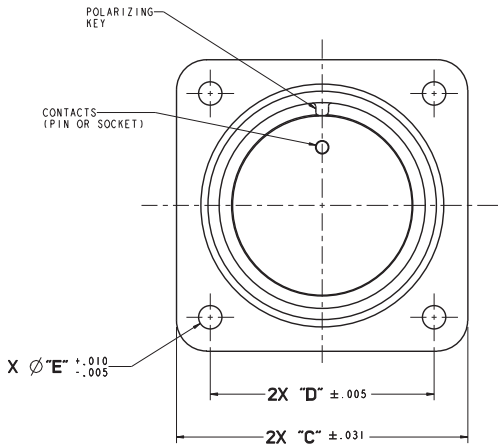
A

Circular

Wall Mounting Receptacle - Solid Endbell

MS3100A

CA/CAR 3100A



TABLE

SIZE	ITT CANNON HARDWARE KIT NO. (GREEN ZINC)	ITT CANNON HARDWARE KIT NO. (BLACK ZINC)	"A" THREAD (CLASS: 2A)	"B" THREAD (CLASS: 2A)	"C"	"D"	"E"	"F"	"G"	"H"	"J"	"K"	Ø "L"
10SL*	002799-0000	002799-0001	5/8-24 UNEF	5/8-24 UNEF	1.000 (25.40)	.718 (18.24)	.120 (3.05)	.562 (14.30)	.093 (2.36)	.375 (9.53)	.354 (9.00)	1.625 (42.27)	.346 (8.79)
12S	002602-0000	002602-0001	3/4-20 UNEF	5/8-24 UNEF	1.094 (27.80)	.813 (20.65)	.120 (3.05)	.562 (14.30)	.093 (2.36)	.375 (9.53)	.393 (9.98)	1.655 (42.04)	.465 (11.81)
14S	002604-0000	002604-0001	7/8-20 UNEF	3/4-20 UNEF	1.188 (30.20)	.906 (23.00)	.120 (3.05)	.562 (14.30)	.093 (2.36)	.375 (9.53)	.354 (9.00)	1.705 (45.31)	.575 (14.61)
16S	002606-0000	002606-0001	1-20 UNEF	7/8-20 UNEF	1.281 (32.50)	.969 (24.60)	.120 (3.05)	.562 (14.30)	.093 (2.36)	.375 (9.53)	.374 (9.50)	1.775 (45.09)	.669 (17.00)
12	002603-0000	002603-0001	3/4-20 UNEF	5/8-24 UNEF	1.094 (27.80)	.813 (20.65)	.120 (3.05)	.750 (19.10)	.093 (2.36)	.625 (15.88)	.393 (9.98)	1.845 (46.86)	.465 (11.81)
14	002605-0000	002605-0001	7/8-20 UNEF	3/4-20 UNEF	1.188 (30.20)	.906 (23.00)	.120 (3.05)	.750 (19.10)	.093 (2.36)	.625 (15.88)	.354 (9.00)	1.885 (47.88)	.575 (14.61)
16	002607-0000	002607-0002	1-20 UNEF	7/8-20 UNEF	1.281 (32.50)	.969 (24.60)	.120 (3.05)	.750 (19.10)	.093 (2.36)	.625 (15.88)	.374 (9.50)	1.965 (49.91)	.669 (17.00)
18	002608-0000	002607-0001	1 1/8-18 UNEF	1-20 UNEF	1.375 (35.00)	1.062 (27.00)	.120 (3.05)	.750 (19.10)	.115 (2.92)	.625 (15.88)	.374 (9.50)	2.035 (51.69)	.807 (20.50)
20	002609-0000	002609-0001	1 1/4-18 UNEF	1 3/16-18 UNEF	1.500 (38.10)	1.152 (29.36)	.120 (3.05)	.750 (19.10)	.115 (2.92)	.625 (15.88)	.393 (9.98)	2.245 (57.02)	.978 (20.50)
22	002610-0000	002610-0001	1 3/8-18 UNEF	1 3/16-18 UNEF	1.625 (41.30)	1.250 (31.75)	.120 (3.05)	.750 (19.10)	.115 (2.92)	.625 (15.88)	.393 (9.98)	2.185 (55.50)	.980 (24.89)
24	002611-0000	002611-0001	1 1/2-18 UNEF	1 7/16-18 UNEF	1.750 (44.45)	1.375 (31.90)	.147 (3.74)	.812 (20.63)	.115 (2.92)	.625 (15.88)	.393 (9.98)	2.285 (58.04)	1.220 (31.00)
28	002612-0000	002611-0001	1 3/4-18 UNS	1 7/16-18 UNEF	2.000 (50.80)	1.562 (39.70)	.147 (3.74)	.812 (20.63)	.115 (2.92)	.625 (15.88)	.394 (10.00)	2.245 (57.02)	1.114 (28.30)
32	002613-0000	002613-0001	2-18 UNS	1 3/4-18 UNS	2.250 (57.15)	1.750 (44.45)	.173 (4.40)	.875 (22.23)	.166 (4.21)	.625 (15.88)	.453 (11.50)	2.275 (57.79)	1.425 (36.20)
36	002614-0000	002614-0001	2 1/4-16 UN	2-18 UNS	2.500 (63.50)	1.937 (49.20)	.173 (4.40)	.875 (22.23)	.166 (4.21)	.625 (15.88)	.492 (12.50)	2.485 (63.12)	1.772 (45.00)

* 10SL is available in the following configurations only: 3100, 3101, 3102, pin contacts only and 3106 and 3108 socket contacts only





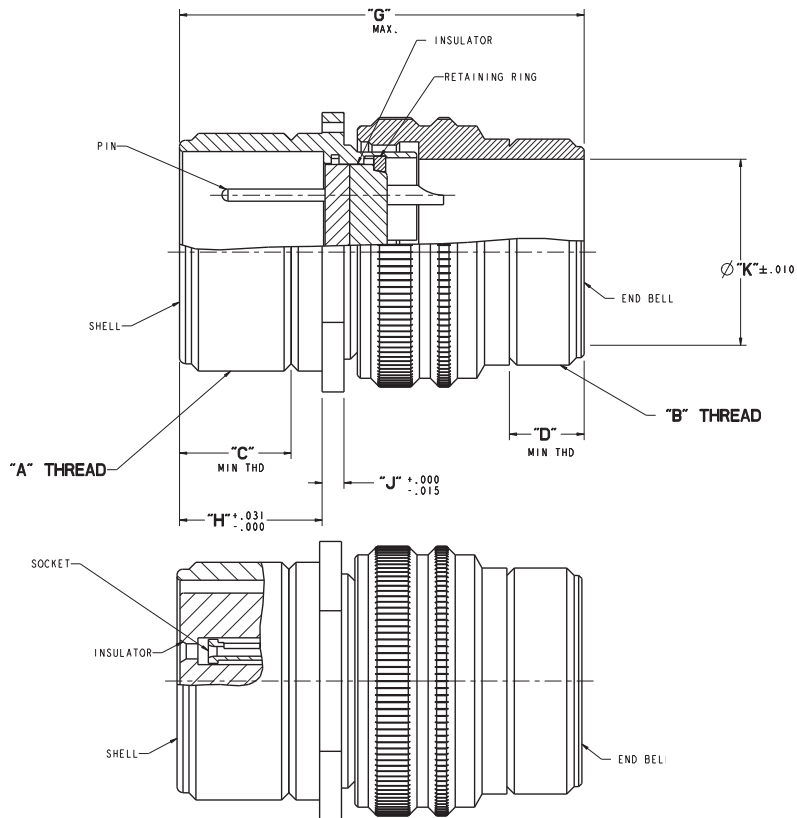
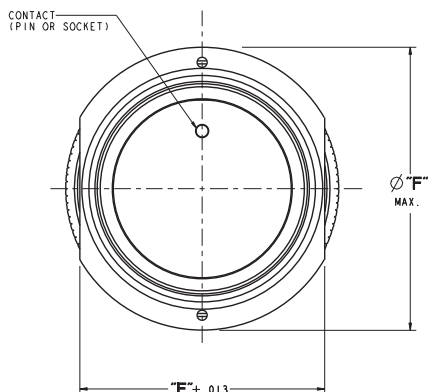
A

Circular

Cable Connecting Receptacle - Solid Endbell

MS3101A

CA/CAR 3101A



TABLE

SIZE	ITT CANNON HARDWARE KIT NO. (GREEN ZINC)	ITT CANNON HARDWARE KIT NO. (BLACK ZINC)	"A" THREAD (CLASS: 2A)	"B" THREAD (CLASS: 2A)	"C"	"D"	"E"	ϕ "F"	"G"	"H"	"J"	ϕ "K"
10SL*	030922-0000	030922-0001	5/8-24 UNEF	5/8-24 UNEF	.375 (9.53)	.354 (9.00)	.771 (19.58)	.969 (24.61)	1.531 (38.89)	.562 (14.30)	.093 (2.36)	.346 (8.79)
12S	030923-0000	030923-0001	3/4-20 UNEF	5/8-24 UNEF	.375 (9.53)	.393 (9.98)	.771 (19.58)	1.062 (26.77)	1.688 (42.88)	.562 (14.30)	.093 (2.36)	.465 (11.81)
14S	030925-0000	030925-0001	7/8-20 UNEF	3/4-20 UNEF	.375 (9.53)	.354 (9.00)	.898 (22.80)	1.156 (29.36)	1.688 (42.88)	.562 (14.30)	.093 (2.36)	.575 (14.61)
16S	030927-0000	030927-0001	1-20 UNEF	7/8-20 UNEF	.375 (9.53)	.374 (9.50)	1.021 (25.93)	1.250 (31.75)	1.688 (42.88)	.562 (14.30)	.093 (2.36)	.669 (17.00)
12	030924-0000	030924-0001	3/4-20 UNEF	5/8-24 UNEF	.625 (15.88)	.393 (9.98)	.771 (19.58)	1.062 (26.97)	2.062 (52.37)	.750 (19.10)	.093 (2.36)	.465 (11.81)
14	030926-0000	030924-0001	7/8-20 UNEF	3/4-20 UNEF	.625 (15.88)	.354 (9.00)	.898 (22.80)	1.156 (29.36)	2.062 (52.37)	.750 (19.10)	.093 (2.36)	.575 (14.61)
16	030928-0000	030928-0002	1-20 UNEF	7/8-20 UNEF	.625 (15.88)	.374 (9.50)	1.021 (25.93)	1.250 (31.75)	2.062 (52.37)	.750 (19.10)	.093 (2.36)	.669 (17.00)
18	030929-0000	030929-0001	1 1/8-18 UNEF	1-20 UNEF	.625 (15.88)	.374 (9.50)	1.145 (29.08)	1.344 (34.13)	2.062 (52.37)	.750 (19.10)	.115 (2.92)	.807 (20.50)
20	030930-0000	030930-0001	1 1/4-18 UNEF	1 3/16-18 UNEF	.625 (15.88)	.393 (9.98)	1.270 (32.25)	1.469 (37.30)	2.188 (55.58)	.750 (19.10)	.115 (2.92)	.978 (24.90)
22	030931-0000	030931-0001	1 3/8-18 UNEF	1 3/16-18 UNEF	.625 (15.88)	.393 (9.98)	1.395 (35.43)	1.594 (40.50)	2.188 (55.58)	.750 (19.10)	.115 (2.92)	.980 (24.89)
24	030932-0000	030932-0001	1 1/2-18 UNEF	1 7/16-18 UNEF	.625 (15.88)	.393 (9.98)	1.520 (38.60)	1.719 (43.66)	2.312 (58.72)	.812 (20.63)	.115 (2.92)	1.220 (31.00)
28	030933-0000	030933-0001	1 3/4-18 UNS	1 7/16-18 UNEF	.625 (15.88)	.394 (10.00)	1.770 (45.00)	1.969 (50.00)	2.312 (58.72)	.812 (20.63)	.115 (2.92)	1.114 (28.30)
32	030934-0000	030934-0001	2-18 UNS	1 3/4-18 UNS	.625 (15.88)	.453 (11.50)	2.020 (51.30)	2.219 (56.36)	2.438 (61.93)	.875 (22.23)	.166 (4.21)	1.425 (36.20)
36	030935-0000	030935-0001	2 1/4-16 UN	2-18 UNS	.625 (15.88)	.492 (12.50)	2.270 (57.65)	2.469 (62.70)	2.438 (61.93)	.875 (22.23)	.166 (4.21)	1.772 (45.00)

* 10SL is available in the following configurations only: 3100, 3101, 3102, pin contacts only and 3106 and 3108 socket contacts only

Dimensions shown in inches (mm)
 Specifications and dimensions subject to change

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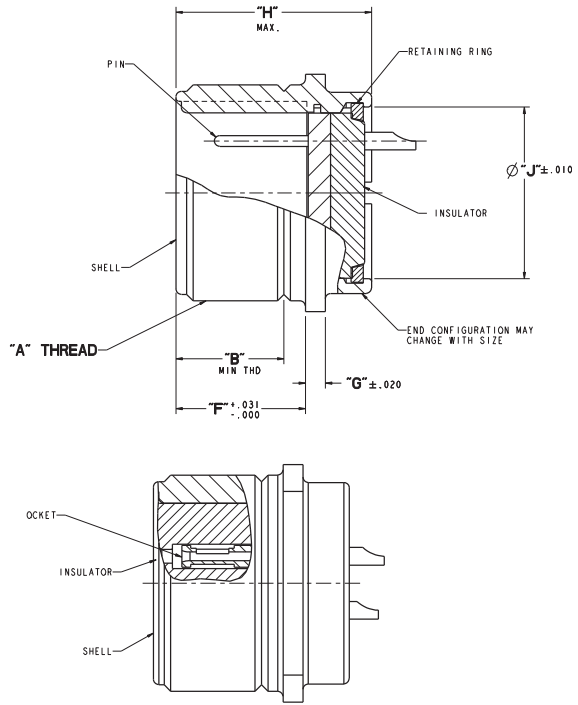
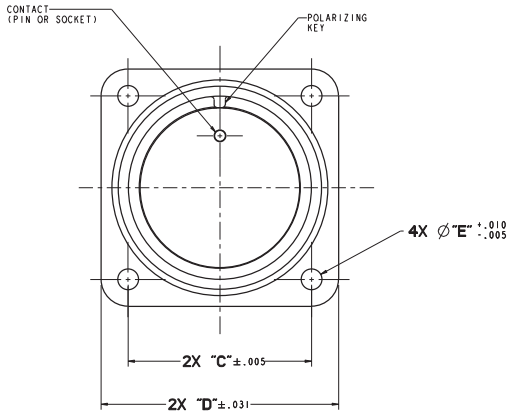
Box Mounting Receptacle

MS3102A

CA/CAR 3102A

Circular

A



TABLE

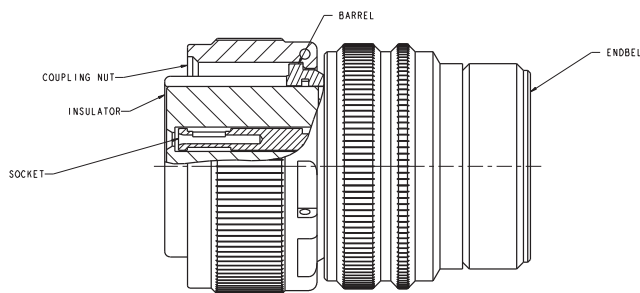
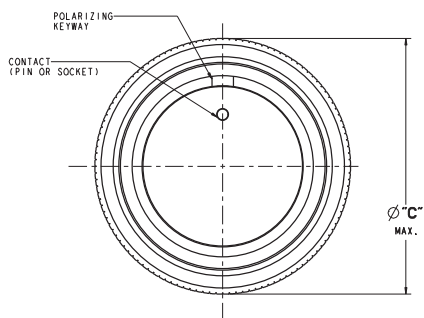
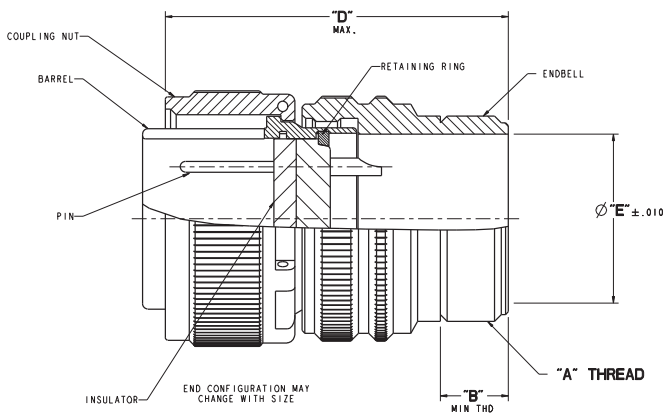
SIZE	ITT CANNON HARDWARE KIT NO. (GREEN ZINC)	ITT CANNON HARDWARE KIT NO. (BLACK ZINC)	"A" THREAD (CLASS: 2A)	"B"	"C"	"D"	Ø"E"	"F"	"G"	"H"	Ø"J"
10SL*	248-0112-021	248-0112-022	5/8-24 UNEF	.375 (9.53)	.718 (18.24)	1.000 (25.40)	.120 (3.05)	.562 (14.30)	.093 (2.36)	.938 (23.83)	.389 (9.88)
12S	248-0091-027	248-0091-028	3/4-20 UNEF	.375 (9.53)	.813 (20.65)	1.094 (27.80)	.120 (3.05)	.562 (14.30)	.093 (2.36)	.955 (24.26)	.517 (13.13)
14S	248-0093-051	248-0093-052	7/8-20 UNEF	.375 (9.53)	.906 (23.00)	1.188 (30.20)	.120 (3.05)	.562 (14.30)	.093 (2.36)	.955 (24.26)	.597 (15.16)
16S	248-0095-038	248-0095-039	1-20 UNEF	.375 (9.53)	.969 (24.60)	1.281 (32.50)	.120 (3.05)	.562 (14.30)	.093 (2.36)	.955 (24.26)	.719 (18.26)
12	248-0090-009	248-0090-010	3/4-20 UNEF	.625 (15.88)	.813 (20.65)	1.094 (27.80)	.120 (3.05)	.750 (19.10)	.093 (2.36)	1.143 (29.03)	.517 (13.13)
14	248-0092-011	248-0092-012	7/8-20 UNEF	.625 (15.88)	.906 (23.00)	1.188 (30.20)	.120 (3.05)	.750 (19.10)	.093 (2.36)	1.143 (29.03)	.597 (15.16)
16	248-0094-023	248-0094-024	1-20 UNEF	.625 (15.88)	.969 (24.60)	1.281 (32.50)	.120 (3.05)	.750 (19.10)	.093 (2.36)	1.143 (29.03)	.719 (18.26)
18	248-0096-042	248-0096-043	1 1/8-18 UNEF	.625 (15.88)	1.062 (27.00)	1.375 (35.00)	.120 (3.05)	.750 (19.10)	.115 (2.92)	1.143 (29.03)	.839 (21.31)
20	248-0097-033	248-0097-034	1 1/4-18 UNEF	.625 (15.88)	1.156 (29.36)	1.500 (38.10)	.120 (3.05)	.750 (19.10)	.115 (2.92)	1.149 (29.18)	.994 (25.25)
22	248-0098-040	248-0098-041	1 3/8-18 UNEF	.625 (15.88)	1.250 (31.75)	1.625 (41.30)	.120 (3.05)	.750 (19.10)	.115 (2.92)	1.149 (29.03)	1.089 (27.66)
24	248-0099-032	248-0099-033	1 1/2-18 UNEF	.625 (15.88)	1.375 (31.90)	1.750 (44.45)	.147 (3.74)	.812 (20.63)	.115 (2.92)	1.305 (33.015)	1.216 (30.84)
28	248-0100-039	248-0100-040	1 3/4-18 UNS	.625 (15.88)	1.562 (39.70)	2.000 (50.80)	.173 (4.40)	.812 (20.63)	.115 (2.92)	1.305 (33.15)	1.436 (36.047)
32	248-0101-023	248-0101-025	2-18 UNS	.625 (15.88)	1.750 (44.45)	2.250 (57.15)	.173 (4.40)	.875 (22.23)	.166 (4.21)	1.305 (33.15)	1.686 (42.82)
36	248-0102-025	248-0102-026	2 1/4-16 UN	.625 (15.88)	1.937 (49.20)	2.500 (63.50)	.173 (4.40)	.875 (22.23)	.166 (4.21)	1.305 (33.15)	1.901 (48.29)

* 10SL is available in the following configurations only: 3100, 3101, 3102, pin contacts only and 3106 and 3108 socket contacts only

Straight Plug - Solid Endbell

MS3106A

CA/CAR 3106A



TABLE

SIZE	ITT CANNON HARDWARE KIT NO. (GREEN ZINC)	ITT CANNON HARDWARE KIT NO. (BLACK ZINC)	"A" THREAD (CLASS: 2A)	"B"	Ø"C"	"D"	Ø"E"
10SL*	030903-0000	030903-0002	5/8-24 UNEF	.375 (9.53)	.969 (24.61)	1.531 (38.89)	.346 (8.79)
12S	030904-0000	030904-0001	5/8-24 UNEF	.375 (9.53)	1.062 (26.97)	1.688 (42.88)	.465 (11.81)
14S	030906-0000	030906-0002	3/4-20 UNEF	.375 (9.53)	1.156 (29.36)	1.688 (42.88)	.575 (14.61)
16S	030908-0000	030908-0001	7/8-20 UNEF	.375 (9.53)	1.250 (31.75)	1.688 (42.88)	.669 (17.00)
12	030905-0000	030905-0001	5/8-24 UNEF	.375 (9.53)	1.062 (26.97)	2.062 (52.37)	.465 (11.81)
14	030907-0000	030907-0001	3/4-20 UNEF	.375 (9.53)	1.156 (29.36)	2.062 (52.37)	.575 (14.61)
16	030909-0000	030909-0001	7/8-20 UNEF	.375 (9.53)	1.250 (31.75)	2.062 (52.37)	.669 (17.00)
18	030910-0000	030910-0002	1-20 UNEF	.375 (9.53)	1.344 (34.14)	2.062 (52.37)	.807 (20.50)
20	030911-0000	030911-0003	1 3/16-18 UNEF	.375 (9.53)	1.469 (37.31)	2.188 (55.58)	.978 (24.89)
22	030912-0000	030912-0002	1 3/16-18 UNEF	.375 (9.53)	1.594 (40.49)	2.188 (55.58)	.980 (24.89)
24	030913-0000	030913-0002	1 7/16-18 UNEF	.375 (9.53)	1.719 (43.66)	2.312 (58.72)	1.220 (31.00)
28	030914-0000	030914-0003	1 7/16-18 UNEF	.375 (9.53)	1.969 (50.01)	2.312 (58.72)	1.114 (28.30)
32	030915-0000	030915-0002	1 3/4-18 UNS	.438 (11.13)	2.219 (56.36)	2.438 (61.93)	1.425 (36.20)
36	030916-0000	030916-0002	2-18 UNS	.500 (12.70)	2.469 (62.71)	2.438 (61.93)	1.772 (45.00)

* 10SL is available in the following configurations only: 3100, 3101, 3102, pin contacts only and 3106 and 3108 socket contacts only

Dimensions shown in inches (mm)
Specifications and dimensions subject to change

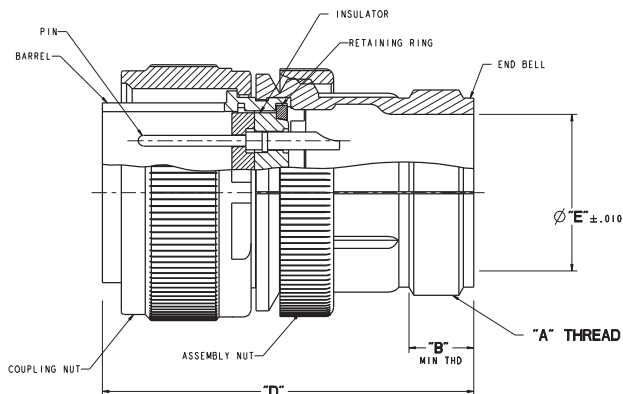
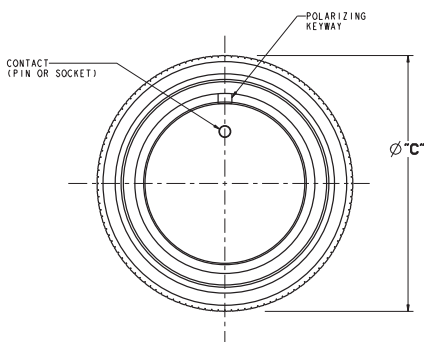
www.ittcannon.com

Straight Plug - Split Endbell

MS3106B

CA/CAR 3106B

Circular



END CONFIGURATION MAY CHANGE WITH SIZE

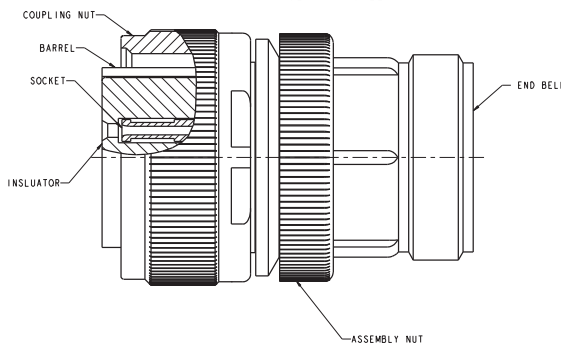


TABLE							
SIZE	ITT CANNON HARDWARE KIT NO. (GREEN ZINC)	ITT CANNON HARDWARE KIT NO. (BLACK ZINC)	"A" THREAD (CLASS: 2A)	"B"	Ø "C"	"D"	Ø "E"
10SL*	002778-0001	002778-0002	5/8-24 UNEF	.751 (19.07)	.969 (24.61)	1.531 (38.89)	.438 (11.13)
12S	002779-0000	002779-0002	5/8-24 UNEF	.751 (19.07)	1.034 (26.26)	1.688 (42.88)	.379 (9.62)
14S	002781-0000	002781-0003	3/4-20 UNEF	.736 (18.69)	1.138 (28.90)	1.688 (42.88)	.489 (12.42)
16S	002783-0000	002783-0003	7/8-20 UNEF	.744 (18.89)	1.256 (31.90)	1.688 (42.88)	.615 (15.62)
12	002780-0000	002780-0001	5/8-24 UNEF	.751 (19.07)	1.034 (26.26)	2.062 (52.37)	.379 (9.62)
14	002782-0000	002782-0001	3/4-20 UNEF	.736 (18.69)	1.138 (28.90)	2.062 (52.37)	.489 (12.42)
16	002784-0000	002784-0002	7/8-20 UNEF	.744 (18.89)	1.256 (31.90)	2.062 (52.37)	.615 (15.62)
18	002785-0000	002785-0003	1-20 UNEF	.909 (23.08)	1.331 (33.80)	2.062 (52.37)	.802 (20.37)
20	002786-0000	002786-0003	1 3/16-18 UNEF	1.032 (26.31)	1.479 (37.56)	2.188 (55.58)	.906 (23.01)
22	002787-0000	002787-0003	1 3/16-18 UNEF	.984 (24.99)	1.609 (40.86)	2.188 (55.58)	.906 (23.01)
24	002788-0000	002788-0003	1 7/16-18 UNEF	1.150 (29.21)	1.721 (43.71)	2.312 (58.72)	1.180 (29.97)
28	002789-0000	002789-0003	1 7/16-18 UNEF	1.150 (29.21)	1.997 (50.72)	2.312 (58.72)	1.164 (29.56)
32	002790-0000	002790-0002	1 3/4-18 UNS	1.209 (30.70)	2.252 (57.20)	2.438 (61.93)	1.489 (42.32)
36	002791-0000	002791-0002	2-18 UNS	1.281 (32.53)	2.496 (63.39)	2.438 (61.93)	1.666 (42.32)

* 10SL is available in the following configurations only: 3100, 3101, 3102, pin contacts only and 3106 and 3108 socket contacts only

90° Angle Plug - Split Endbell

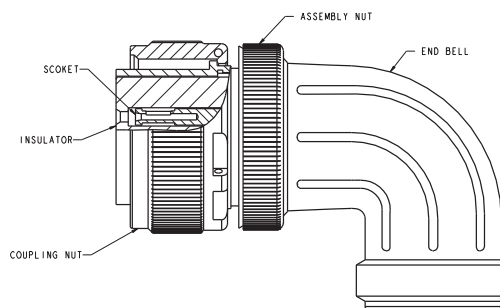
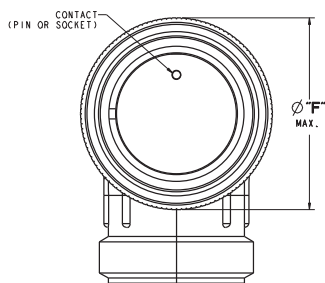
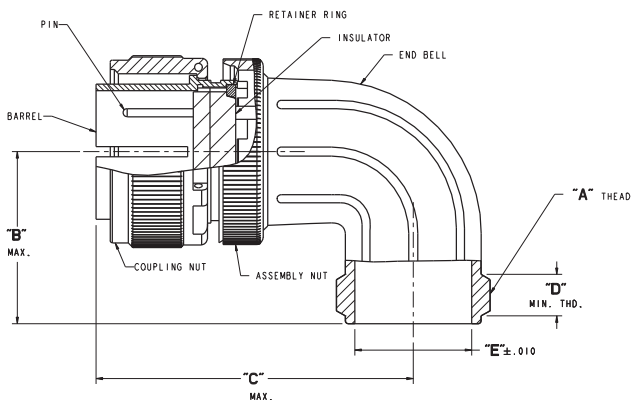
MS3108B

CA/CAR 3108B



A

Circular



TABLE

SIZE	ITT CANNON HARDWARE KIT NO. (GREEN ZINC)	ITT CANNON HARDWARE KIT NO. (BLACK ZINC)	"A" THREAD (CLASS: 2A)	"B"	"C"	"D"	"E"	"F"
10SL*	002756-0001	002756-0002	5/8-24 UNEF	1.00 (25.40)	1.500 (38.10)	.375 (9.53)	.25 (6.35)	.969 (24.61)
12S	002757-0000	002757-0001	5/8-24 UNEF	1.063 (27.00)	1.688 (42.86)	.375 (9.53)	.344 (8.74)	1.062 (26.94)
14S	002759-0000	002759-0002	3/4-20 UNEF	1.125 (28.57)	1.75 (44.45)	.375 (9.53)	.469 (11.91)	1.156 (29.36)
16S	002761-0000	002761-0002	7/8-20 UNEF	1.188 (30.17)	1.938 (49.23)	.375 (9.53)	.594 (15.08)	1.25 (31.75)
12	002758-0000	002758-0001	5/8-24 UNEF	1.063 (27.00)	1.938 (49.23)	.375 (9.53)	.344 (8.74)	1.062 (26.94)
14	002760-0000	002760-0001	3/4-20 UNEF	1.125 (28.57)	1.938 (49.23)	.375 (9.53)	.469 (11.91)	1.156 (29.36)
16	002762-0000	002762-0001	7/8-20 UNEF	1.188 (30.17)	2.125 (53.98)	.375 (9.53)	.594 (15.08)	1.25 (31.75)
18	002763-0000	002763-0002	1-20 UNEF	1.313 (33.35)	2.188 (55.58)	.375 (9.53)	.719 (18.26)	1.344 (34.14)
20	002764-0000	002764-0002	1 3/16-18 UNEF	1.375 (34.93)	2.438 (61.93)	.375 (9.53)	.875 (22.25)	1.469 (37.31)
22	002765-0000	002765-0002	1 3/16-18 UNEF	1.375 (34.93)	2.438 (61.93)	.375 (9.53)	.875 (22.25)	1.594 (40.49)
24	002766-0000	002766-0002	1 7/16-18 UNEF	1.563 (39.70)	2.688 (68.28)	.375 (9.53)	1.094 (27.78)	1.719 (43.6)
28	002767-0000	002767-0002	1 7/16-18 UNEF	1.563 (39.70)	2.688 (68.28)	.375 (9.53)	1.094 (27.78)	1.969 (50.01)
32	002768-0000	002768-0001	1 3/4-18 UNS	1.875 (47.63)	2.875 (73.03)	.438 (11.13)	1.375 (34.93)	2.219 (56.36)
36	002769-0000	002769-0002	2 -18 UNS	2.063 (52.40)	2.938 (74.63)	.500 (12.70)	1.625 (41.28)	2.469 (62.71)

* 10SL is available in the following configurations only: 3100, 3101, 3102, pin contacts only and 3106 and 3108 socket contacts only

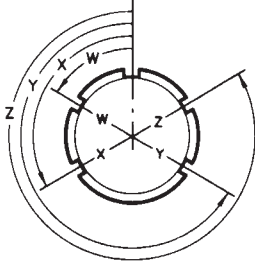


A

Circular

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	—

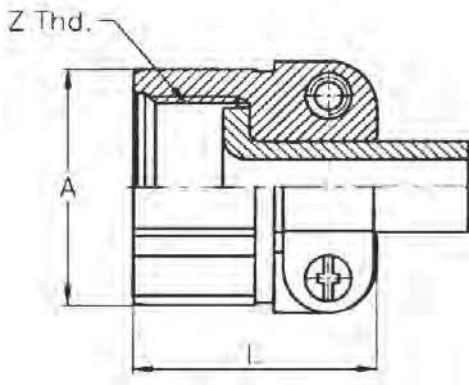
Contact Arrangement	W°	X°	Y°	Z°
14S-9	70	145	215	290
16-9	35	110	250	325
16-10	90	180	270	—
16-11	35	110	250	325
16S-1	80	—	—	280
16S-8	—	170	265	—
18-1	70	145	215	290
18-4	35	110	250	325
18-5	80	110	250	280
18-8	70	—	—	290
18-9	80	110	250	280
18-10	—	120	240	—
18-11	—	170	265	—
18-12	80	—	—	280
18-20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

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 RoHS compliant
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



Size	A	L	Z	Green Zinc	Black Zinc RoHS compliant	Cadmium
4A	.811 (20.60)	.811 (20.60)	5/8-24INEF-2B	995-0002-558	995-0002-280	995-0002-550
6A	.969 (24.60)	.969 (24.60)	3/4-20UNEF-2B	995-0002-559	995-0002-281	995-0002-551
8A	1.094 (27.80)	1.094 (27.80)	7/8-20UNEF-2B	995-0002-560	995-0002-282	995-0002-552
10A	1.89 (30.20)	1.89 (30.20)	1-20UNEF-2B	995-0002-561	995-0002-283	995-0002-553
12A	1.378 (35.00)	1.378 (35.00)	13/16-18UNEF-2B	995-0002-562	995-0002-284	995-0002-554
16A	1.693 (43.00)	1.693 (43.00)	17/16-18UNEF-2B	995-0002-563	995-0002-285	995-0002-555
20A	2.031 (51.60)	2.031 (51.60)	1-3/4-18UNS-2B	995-0002-564	995-0002-286	995-0002-556
24A	2.220 (56.40)	2.220 (56.40)	2-18UNS-2B	995-0002-565	995-0002-287	995-0002-557

Metal Protective Caps



For more information on protective caps contact Interconnect Solutions Sales Offices.



Dimensions shown in inches (mm)
Specifications and dimensions subject to change

ITT Cannon is the foremost manufacturer of MS and MS type connectors with the widest range of connector styles, sizes and variations in the industry. These connectors utilize the finest materials, which, along with precision manufacturing and rigid quality control, assure ITT Cannon customers of the finest quality connectors.

These circular connectors were originally designed for aircraft, but are now widely used in many other fields. They are particularly suitable for commercial applications requiring low cost and high reliability.



ENVIRONMENTAL RESISTANT MS-E, MS-F, MS-R, AND F80 (Solder/Crimp Termination)

MS-E, MS-F and MS-R are similar to MS-A and MS-B connectors but have resilient insulators and wire sealing grommets for extreme environmental conditions and high altitude sealing. MS-E's and MS-F's have a mechanical cable clamp; the MS-R has a shorter, lighter weight endbell without the cable clamp. Both the MS-F and MS-R have O rings to supplement the interfacial seal. Shells are aluminum alloy. Contacts are silver plated copper alloy. The F80 modification (crimp contact termination) is available in E, R, F and BFR styles with resilient insulators.

POTTING ER CONNECTORS (Solder Contact Termination)

These Lightweight potting connectors provide resistance to salt water, fuels, etc., and will withstand the effects of high vibration. 3100 and 3106 connectors with plastic potting cups and resilient inserts meet the requirements of MS3103 and MS25183. Contacts are silver plated copper or brass. ER insulators are resilient; shells are aluminum alloy. A 90° plug (3108ER) is also available.



ACCESSORIES

Accessories to fit MS connectors include junction shells, protective caps, dummy or stowage receptacles, cable clamps, telescoping bushings.



Circular
A

How to Order

In the latest revision of MIL-C-5015, a new class of environment-resistant connectors was added. This new class F connector supersedes the previous class E connector. The MS3106F has an O ring under the coupling nut. The class E will be available upon request for existing programs, and upon ordering will also bear the E nomenclature on the shell.

MS-F and MS-R connectors are designed to operate in the extreme environmental conditions of high altitude flight and must be completely sealed to withstand moisture, condensation, vibration, corona and flashover caused by high altitude environments. They have resilient grommet with internal restrictions in the wire cavities which act as O rings around the wires. This allows the wires to slide thru the grommet with a minimum of friction, yet when the ferrule is seated and the endbell tightened it provides a perfect wire seal thru a wide variety of wire diameters. This seal at the rear, plus the interfacial seal at the front, effects a completely environment-resistant assembly when the plug is mated to and F or R receptacle. Sockets are of the closed-entry type.

The temperature range for this connector is -55°C (67°F) to +125° (+257°F) and meets the requirements of MIL-C-5015.

The F80 modification (crimp contact termination) is available in resilient insulators in the E, R, F, and BFR styles, creating a large selection of insert assemblies and hardware. Components are identical to the MS-5015 except that the contacts are modified for crimp termination providing and inexpensive crimp contact connector with the proven reliability of and complete intermateability with the MS-5015 series. Cable clamps have been integrally designed with the endbell on MS-E and MS-F connectors. Class R is without the cable clamp.

Dimensions shown in inches (mm)
Specifications and dimensions subject to change

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MS 3106 R 18 - 1 P W *
CA 3106 F 18 - 1 S - F80*

PREFIX _____

SHELL STYLE _____

CLASS _____

SHELL SIZE _____

CONTACT ARRANGEMENT _____

CONTACT TYPE _____

ALTERNATE INSERT POSITION _____

MODIFICATION CODE _____

PREFIX
MS - Conforms to latest MIL-C-5015 revision.
CA - Cannon designation (for any modification)
CAR - RoHS compliant

SHELL STYLE
3100 - Wall mounting receptacle
3101 - Cable connecting plug
3102 - Box mounting receptacle
3106 - Straight plug
3108 - 90° angle plug

CLASS
E - with resilient insulator and integral clamp for cable strain relief
F - same as E, however style 3106 with O-ring seal under the coupling nut

* When ordering MS3106F to the Cannon part number, designate CA06R.

SHELL SIZE
10S, 12S, 14S, 16S, 16, 18, 20, 22, 24, 28, 32 and 36.

CONTACT ARRANGEMENTS
See pages A-85 to A-89

CONTACT TYPE
P - Pin
S - Socket

ALTERNATE INSERT POSITION
W, X, Y and Z (omit for "Normal", see page A-89)

MODIFICATION CODE
A71 - Electroless Nickel Hardware, RoHS
A176 - Contacts hard gold over nickel, RoHS
A206 - Black zinc cobalt hardware, RoHS
F42 - Connector supplied without endbell, grommet and ferrule
F80 - Snap-in crimp contacts
F183 - Snap-in crimp contacts for metric conductors
DN - CA3106 (plug only), endbell for shrink boot adapter
A232 - Black zinc cobalt hardware, RoHS European version
A233 - Green zinc cobalt hardware, European version





A

Circular

Performance and Material Specifications

MATERIALS AND FINISHES

Shell	Material Finish	Aluminum Alloy O.D. Chromate coating over cadmium plating
Insulator	Material	Polychloroprene (resilient)
Contacts	Material Finish Termination	Brass or copper alloy Silver plate Tinned solder pot

WIRING

For class E, F, and R connectors, satisfactory moisture sealing will be obtained if AWG and MS wire sizes and insulation outside diameters are governed by this table.

Contact Size	Wire Size (MIL-W-5086)	Insulation OD Limit (inches)
16	16 thru 20	.064 (1.63) min. to .130 (3.30) max.
12	12 thru 14	.114 (2.90) min. to .170 (4.32) max.
8	8 thru 10	.164 (4.17) min. to .255 (6.48) max.
4	4 thru 6	.275 (6.98) min. to .370 (9.40) max.
0	0 thru 2	.415 (10.54) min to .550 (13.97) max.

ELECTRICAL SERVICE DATA

Test current ratings of contacts and allowable voltage drop under test conditions when assembled as in service are shown below. Maximum total current to be carried per connector is the same as the allowable in wire bundles as specified in MIL-W-5088.

Contact Size	Test Current (amps)	Potential Drop (millivolts)
16	13	49
12	23	42
8	46	26
4	80	23
0	150	21

THERMOCOUPLE CONTACTS

Sizes 12 and 16 contacts, machined from matching thermocouple lead wire alloys, can be supplied in ITT Cannon connectors. These thermocouple contacts maintain continuity from thermal-sensor leads through a bulkhead of other closures in temperature measuring applications.

These contacts for matching lead wires are detailed by the standards of the Instrument Society of America (ISA).

ISA Standards	Material
J and Y	Iron and constantan
K	Chromel and alumel
T	Copper and constantan

Since the thermocouple connector applications determines the soldering methods and materials to be used, thermocouple contacts, identified by permanent markings, are normally supplied with untinned solder pots. Thermocouple contacts are supplied only in connectors having resilient insulators.

HIGH POTENTIAL TEST VOLTAGE

MS connectors show no evidence of breakdown when the test voltage given below is applied between the two closest contacts and between the shell and the contacts closest to the shell for a period of one minute.

MS Service Rating	Test Voltage (RMS) 60 cps	Suggested* Operating Voltages		Air Spacing Nom. (inches)	Creepage Distance Nom. (inches)
		DC	AC (rms)		
Inst.	1000	250	200		1/16
A	2000	700	500	1/16	1/8
D	2800	1250	900	1/8	3/16
E	3500	1750	1250	3/16	1/4
B	4500	2450	1750	1/4	5/16
C	7000	4200	3000	5/16	1

*As indicated in previous MS specification and to be used by designer only as a guide.



Circular
A

Contact Arrangements (Face View Pin Insert)

LEGEND

● Not MS Approved. ITT Cannon Proprietary (see ITT Cannon designed alternative insert positions, page A-90)

Ⓢ High Volume Layouts - readily available from Cannon Distributors

Shell Size	8S-1	10S-2	10SL-4	10SL-3	10SLA4	12S-4	12-5	12S-3	12SA10	14-3	14S-9
No. of Contacts	1 #16	1 #16	2 #16	3 #16	5 #20	1 #16	1 #12	2 #16	4 #16	1 #8	2 #16
Service Rating	A	A	A	A	A	D	D	A	Inst.	A	A
Shell Size	14S-1	14S-7	14S-2	14S-5	14S-6	16-7	16-12	16-11	16S-4	16-13	16-13
No. of Contacts	3 #16	3 #16	4 #16	5 #16	6 #16	2 #16 (A, B)	1 #4	2 #12	2 #16	2 #12	2 #12
Service Rating	A	A	Inst.	Inst.	Inst.	A	A	A	D	A	(A-Iron B-Constantan)
Shell Size	16S-5	16S-6	16-10	16-9	16S-8	16S-1	18-7	18-3	16S-5	16S-6	16-10
No. of Contacts	3 #16	3 #16	3 #12	2 #16 (B,D)	5 #16	7 #16	1 #8	2 #12	3 #16	3 #16	3 #12
Service Rating	A	A	A	A	A	A	B	D	A	A	D
Shell Size	18-5	18-22	18-4	18-10	18-13	18-15	18-11	18-12	18-5	18-22	18-4
No. of Contacts	1 #16(A)	3 #16	4 #16	4 #12	3 #12 (B,C,C)	4 #12	5 #12	6 #16	2 #12(B,C)	3 #16	4 #16
Service Rating	D	D	D	A	A	A	A	A	D	D	D
Shell Size	18-9	18-8	18-1	18-19	20-2	20-23	20-3	20-19	18-9	18-8	18-1
No. of Contacts	5 #16(B,C,E-G)	7 #16(A-G)	10 #16	10 #16	1 #0	2 #8	3 #12	3 #8	5 #16(B,C,E-G)	7 #16(A-G)	10 #16
Service Rating	Inst.	A	A	A	D	A	D	A	Inst.	A	A
Shell Size	20-4	20-24	20A-9	20A37	20A-48	20-14	20-8	20-17	20-22	20-15	20-4
No. of Contacts	4 #12	2 #16 (A,C)	9 #12	ITT Cannon pos. #8 of 20-4	19 #16	3 #12(C,D,E)	4 #16(B,C,E,F)	1 #16(F)	3 #16(B,D,F)	7 #12	4 #12
Service Rating	D	A	A (all others)	D	Inst.	A	Inst.	A	A	A	D

Dimensions shown in inches (mm)
Specifications and dimensions subject to change



A

Contact Arrangements (continued)

LEGEND

● Not MS Approved. ITT Cannon Proprietary (see ITT Cannon designed alternative insert positions, page A-90)

⊕ High Volume Layouts - readily available from Cannon Distributors

Circular

Shell Size	20-7	20-16	20-18	20-33	20-11	20-27	20-29	22-7
No. of Contacts	8 #16	7 #16(A-G) 2 #12(H,I)	6 #16(A,C-E,G,H) 3 #12(B,F,I)	11 #16	13 #16	14 #16	17 #16	1 #0
Service Rating	A(C-F) D(A,B,G,H)	A	A	A	Inst.	A	A	E
Shell Size	22-11	22-2	22-6	22-9	22-4	22-10	22-22	22-12
No. of Contacts	2 #16	3 #8	1 #16(B) 2 #8(A,C)	3 #12	2 #12(A,C) 2 #8(B,D)	4 #16	4 #8	3 #16(A,C,D) 2 #8(B,E)
Service Rating	B	D	D	E	A	E	A	D
Shell Size	22-13	22-5	22-15	22-28	22-18	22-23	22-17	22-20
No. of Contacts	1 #16(E) 4 #12(A-D)	4 #16(A,C,D,F) 2 #12(B,E)	1 #16(D) 5 #12(A-C,E,F)	7 #12	8 #16	8 #12	8 #16(A-D,F-J) 1 #12(E)	9 #16
Service Rating	A(A-D), D(E)	D	A(A-C,E,F),E(D)	A	A(C-E) D(all others)	D(H) A(all others)	D(A), A(all others)	A
Shell Size	22-27	22-19	22-14	24-9	24-22	24-12	24-2	24-10
No. of Contacts	8 #16(A-H) 1 #8(J)	14 #16	19 #16	2 #4	4 #8	3 #12(B,D,E) 2 #4(A,C)	7 #12	7 #8
Service Rating	D(J), A (all others)	A	A	A	D	A	D	A
Shell Size	24-27	24-6	24-11	24-20	24-19	24A24	24-5	24-7
No. of Contacts	7 #16	8 #12	6 #12(A-C,G-I) 3 #8(D-F)	9 #16(A-D,G-L) 2 #12(E,F)	12 #16	12 #12	16 #16	14 #16(A-M,O) 2 #12(P,N)
Service Rating	E	D(A,G,H) A(all others)	A	D	A	A	A	A



A

Circular

Contact Arrangements (continued)

LEGEND

● Not MS Approved. ITT Cannon Proprietary (see ITT Cannon designed alternative insert positions, page A-90)

⊕ High Volume Layouts - readily available from Cannon Distributors

Shell Size 24-28	28-7	28-22	28-10	28-1	28A-16	28A-63	28-19
No. of Contacts 24 #16	2 #4	3 #16(D-F) 3 #4(A-C)	3 #12(A,F,G) 2 #8(B,E) 2 #4(C,D)	6 #12(A,B,D,F,H) 3 #8(C,J,G)	5 #16 (A, D-F, J) 4 #4 (B, C, G, H)	9 #12 19 #16	6 #16(A-C,H,L,M) 4 #12(E,G,J,K)
Service Rating Inst.	D	D	D(G), A(all others)	D(A,E,J) A(all others)	A (e) Inst. (all others)	A (e) Inst. (all others)	A(C,E,G,J,K,L) B(H,M),D(A,B)

Shell Size 28-9	28-2	28-20	28-17	28-16	28-11	28-12
No. of Contacts 6 #16(A,H-M) 6 #12(B-G)	12 #16(A,L,N) 2 #12(M,P)	4 #16(K-N) 10 #12(A-J,P)	15 #16	20 #16	18 #16(A-I, N-X) 4 #12(J-M)	26 #16
Service Rating D	D	A	A(A-L), B(R) D(M-P)	A	A	A

Shell Size 28-15	28-21	28A51	32-17	32-1	32A-69	32-15	32-9
No. of Contacts 35 #16	37 #16	43 #16	4 #4	3 #12(A,C,D) 2 #0(B,E)	41 #20 20 #16	2 #0(A,G) 6 #12(B,C,D,E,F,H)	12 #16(C-N) 2 #4(A,B)
Service Rating A For MIL equip design, use 28-21	A	A	D	E(A),D(all others)	Inst.	D	D

Shell Size 32-5	32-6	32-8	32-7	32A47	32A10	36-4
No. of Contacts 2 #0	16 #16(A-O,S) 2 #12(U,V) 3 #8(P,R,T) 2 #4(W,X)	24 #16(A-L,T-Z,a-e) 6 #12(M-S) 2 #8(O,R)	28 #16(A-N,W-Z,a-k) 7 #12(O-V)	47 #16	54 #16	3 #0
Service Rating D	A	A For new MIL equip. design, use 32-7	Inst. (A,B,h,i) A(all others)	A	A	A(B,C),C(A)

*NOTE: Additional layouts are the same as shown but in unique alternate positions. Please consult the factory.

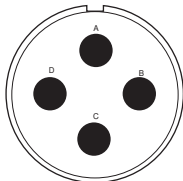


Contact Arrangements (continued)

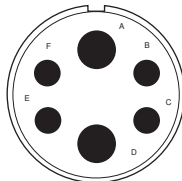
Circular

● Not MS Approved. ITT Cannon Proprietary (see ITT Cannon designed alternative insert positions, page A-90)

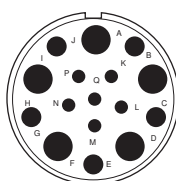
⊕ High Volume Layouts - readily available from Cannon Distributors



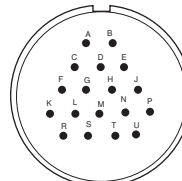
36-5
4 #0



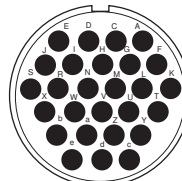
36-6
4 #4(B,C,E,F)
2 #0(A,D)



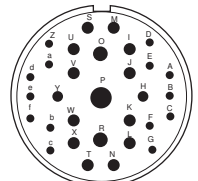
36-14
6 #16(K-N,P,Q)
5 #12(B,D,F,H,J)
5 #8(A,C,E,G,I)



36A16
18 #12
(B,C,V,J,K,M,N,
R, T-Iron; A,D-F,H,L
P,S,U-Constantan)



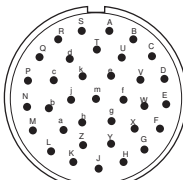
36A46
27 #12



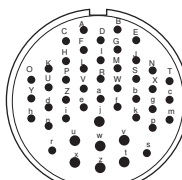
36-9
14 #16(A-G,Z-f)
14 #12(H-N,S-Y)
2 #8(O,R)
1 #4(P)
A

Shell Size
No. of Contacts

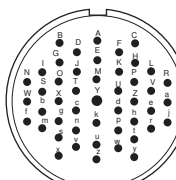
Service Rating



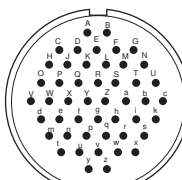
36-15
35 #16



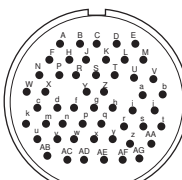
36-7
40 #16(A-Z,a-s)
7 #12(t-z)
A



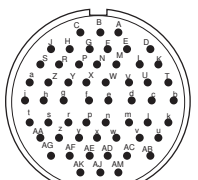
36-8
46 #16(A-X,Z-z)
1 #12(Y)
A



36-10
48 #16
A



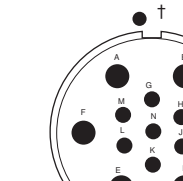
36A34
52 #16
A



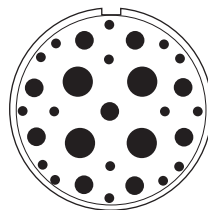
36A66
52 #16(A-c,h-AK)
4 #12(d,e,f,g)
A

Shell Size
No. of Contacts

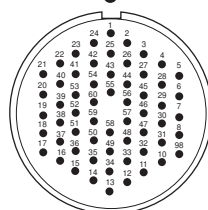
Service Rating



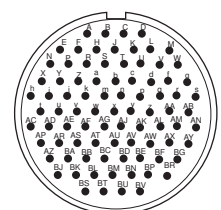
40A33
7 #8(G-N)
6 #4(A-F)
A



40-10
16 #16(A,B,E-H,M,N,P
Q,V-Y,b,c)
9 #8(C,D,I,L,O,R,U,Z,a)
4 #4(K,J,S,T)
A



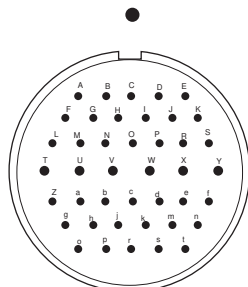
40A27
60 #16
A



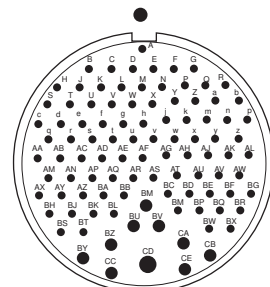
40-56
85 #16
A

Shell Size
No. of Contacts

Service Rating



44-1
36 #16(A-S,Z-t)
6 #12(T-Y)
D



48-5
90 #16(A-BL,BN-BT,BW,BX)
1 #8(CD)
9 #12(BM,BU,BV,BY-CC,CE)
A

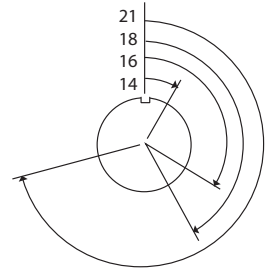
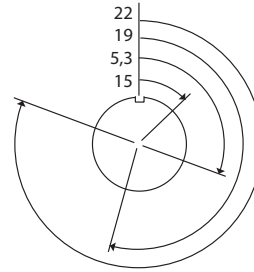
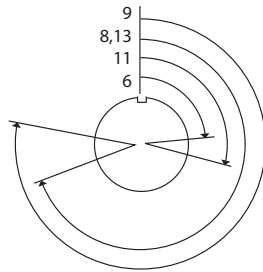
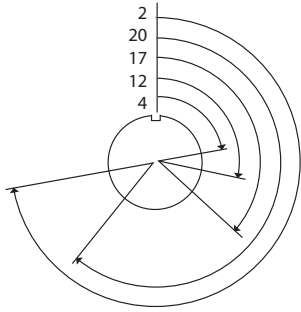
Shell Size
No. of Contacts

Service Rating

Not MS approved.

Circular

A



NOTE: Front view of pin insulator rotates as shown.

Shell Size	Contact Arrangement	Wire Size	Service Rating	Available Position	
20	20A-9	9#12	D (I) A (all others)		
20	20A-48	19#16	Inst.	4	9
28	28A-16	5#16 4#4	A (e) Inst (all others)	2	12
28	28A-63	9#12 19#16	A (e) Inst (all others)		
32	32A-69	41#20 20#16	Inst	3	8
		20	220		
		21	255		
		22	290		
		23	165		
		24	330		
		25	235		
		26	125		



A

Circular

Wall Mounting Receptacle

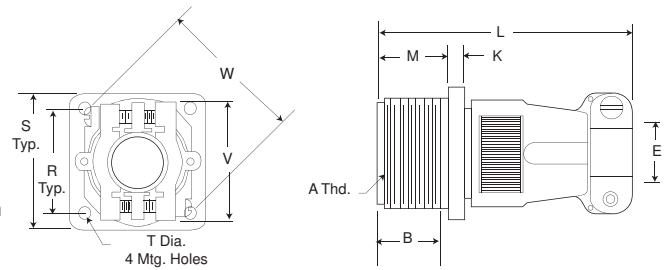
MS3100E / MS3100F
Integral Cable Clamp



CA3100E / CA3100E

MS3100F wall mounting receptacles are used to carry wires thru walls or bulkheads, or to provide a means of disconnection at a bulkhead. MS3100F receptacles mate with 3106 and 3108 plugs.

MS3100E is identical to MS3100F and is available upon request. For new equipment, customer should specify MS3100F.

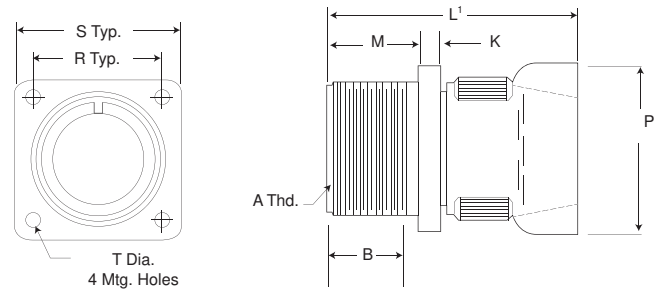


MS3100R



CA3100R

The MS3100R receptacle is identical in purpose to the MS3100F. The MS3100R features a shorter light weight endbell and mates with 3106 and 3108 plugs.



Shell Size	B		E		K	L	L'	E		P	R	T		V	W
	Min.	Max.	Min.	Max.				+ .031	- .000			+ .010	- .005		
8S	.375 (9.53)	.235 (5.97)	.102 (2.59)	.125 (3.18)	2.250 (57.15)	1.838 (46.69)	.562 (14.27)	.890 (22.61)	.594 (15.09)	.875 (22.23)	.120 (3.05)	.840 (21.34)	1.046 (26.57)		
10S	.375 (9.53)	.235 (5.97)	.102 (2.59)	.125 (3.18)	2.250 (57.15)	1.838 (46.69)	.562 (14.27)	.890 (22.61)	.719 (18.26)	1.000 (25.40)	.120 (3.05)	.840 (21.34)	1.046 (26.57)		
10SL	.375 (9.53)	.297 (7.54)	.140 (3.56)	.125 (3.18)	2.250 (57.15)	1.838 (46.69)	.562 (14.27)	.970 (24.64)	.719 (18.26)	1.000 (25.40)	.120 (3.05)	.900 (22.86)	1.125 (28.58)		
12S	.375 (9.53)	.297 (7.54)	.140 (3.56)	.140 (3.56)	2.250 (57.15)	1.838 (46.69)	.562 (14.27)	.970 (24.64)	.812 (20.62)	1.094 (27.79)	.120 (3.05)	.900 (22.86)	1.125 (28.58)		
14S	.375 (9.53)	.422 (10.72)	.195 (4.95)	.140 (3.56)	2.250 (57.15)	1.838 (46.69)	.562 (14.27)	1.150 (29.21)	.906 (23.01)	1.188 (30.18)	.120 (3.05)	1.100 (27.94)	1.343 (34.11)		
16S	.375 (9.53)	.547 (13.89)	.255 (6.48)	.140 (3.56)	2.250 (57.15)	1.838 (46.69)	.562 (14.27)	1.250 (31.75)	.969 (24.61)	1.281 (32.54)	.120 (3.05)	1.200 (30.48)	1.484 (37.69)		
12	.625 (15.88)	.297 (7.54)	.140 (3.56)	.146 (3.71)	2.625 (66.68)	2.181 (55.40)	.750 (19.05)	.970 (24.64)	.812 (20.62)	1.094 (27.79)	.120 (3.05)	.900 (22.86)	1.125 (28.58)		
14	.625 (15.88)	.422 (10.72)	.195 (4.95)	.146 (3.71)	2.625 (66.68)	2.181 (55.40)	.750 (19.05)	1.150 (29.21)	.906 (23.01)	1.188 (30.18)	.120 (3.05)	1.100 (27.94)	1.343 (34.11)		
16	.625 (15.88)	.547 (13.89)	.255 (6.48)	.146 (3.71)	2.625 (66.68)	2.181 (55.40)	.750 (19.05)	1.250 (31.75)	.969 (24.61)	1.281 (32.54)	.120 (3.05)	1.200 (30.48)	1.484 (37.69)		
18	.625 (15.88)	.610 (15.49)	.285 (7.24)	.180 (4.57)	2.688 (68.28)	2.181 (55.40)	.750 (19.05)	1.450 (36.83)	1.062 (26.97)	1.375 (34.93)	.120 (3.05)	1.300 (33.02)	1.609 (40.87)		
20	.625 (15.88)	.735 (18.67)	.350 (8.89)	.180 (4.57)	2.750 (69.85)	2.181 (55.40)	.750 (19.05)	1.570 (39.88)	1.156 (29.36)	1.500 (38.10)	.120 (3.05)	1.500 (38.10)	1.890 (48.01)		
22	.625 (15.88)	.740 (18.80)	.350 (8.89)	.180 (4.57)	2.750 (69.85)	2.181 (55.40)	.750 (19.05)	1.570 (39.88)	1.250 (31.75)	1.625 (41.28)	.120 (3.05)	1.500 (38.10)	1.890 (48.01)		
24	.625 (15.88)	.922 (23.42)	.468 (11.89)	.203 (5.16)	2.969 (75.44)	2.181 (55.40)	.812 (20.62)	1.880 (47.75)	1.375 (34.93)	1.750 (44.45)	.147 (3.73)	1.740 (44.20)	2.170 (55.12)		
28	.625 (15.88)	.922 (23.42)	.468 (11.89)	.203 (5.16)	3.031 (76.99)	2.181 (55.40)	.812 (20.62)	1.880 (47.75)	1.562 (39.67)	2.000 (50.80)	.147 (3.73)	1.740 (44.20)	2.170 (55.12)		
32	.625 (15.88)	1.235 (31.37)	.664 (15.87)	.203 (5.16)	3.031 (76.99)	2.322 (58.98)	.875 (22.23)	2.205 (56.01)	1.750 (44.45)	2.250 (57.15)	.173 (4.39)	2.075 (52.71)	2.656 (67.46)		
36	.625 (15.88)	1.360 (34.54)	.694 (17.63)	.203 (5.16)	3.281 (84.34)	2.322 (58.98)	.875 (22.23)	2.400 (60.96)	1.938 (49.23)	2.500 (63.50)	.173 (4.39)	2.300 (58.42)	2.922 (74.22)		
40	.625 (15.88)	1.628 (41.35)	.911 (23.14)	.203 (5.16)	3.560 (89.66)†	2.427 (61.65)†	.875 (22.23)	2.840 (72.14)	2.188 (55.58)	2.750 (69.85)	.173 (4.39)	2.688 (68.28)	-		

† Not to MS specification

Shell Size	A Thread	Shell Size	A Thread
8S	1/2-28UNEF-2A	16	1-20UNEF-2A
10S	5/8-24UNEF-2A	18	1-1/8-18UNEF-2A
10SL	5/8-24UNEF-2A	20	1-1/4-18UNEF-2A
12S	3/4-20UNEF-2A	22	1-3/8-18UNEF-2A
14S	7/8-20UNEF-2A	24	1-1/2-18UNEF-2A
16S	1-20UNEF-2A	28	1-3/4-18UNS-2A
12	3/4-20UNEF-2A	32	2-18UNS-2A
14	7/8-20UNEF-2A	36	2-1/4-16UN-2A
		40	2-1/2-16UN-2A

Performance Specifications - Page A-84

Contact, Ceiling Plugs, Assembly Tools - Page A-105

Contact Arrangements - Page A-85 - A-89

Dimensions shown in inches (mm)
Specifications and dimensions subject to change

www.ittcannon.com



Cable Connecting Plug (Receptacle with no mounting flange)

Circular

MS3101E / MS3101F
Integral Cable Clamp

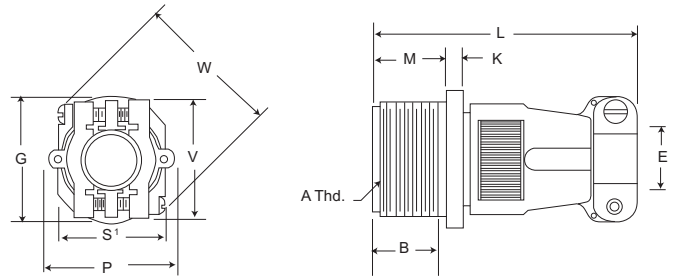


CA3101E / CA3101E

MS3101E cable connecting plugs are used for cable extension requirements, where mounting provisions are unnecessary.

MS3101E receptacle mate with 3106, and 3108 plugs.

Note: MIL-C-5015 has changed the nomenclature of the 3101 from Receptacle to Plug.

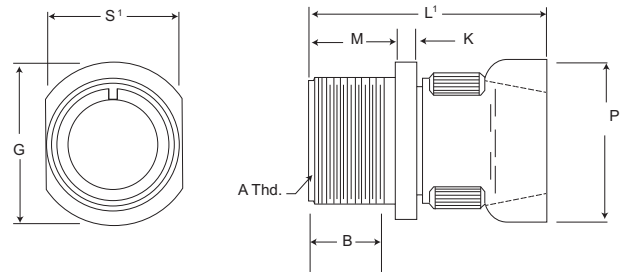


MS3101R



CA3101R

MS3101R cable connecting plug is identical in purpose to the MS3101E. The MS3101R features a shorter light weight endbell and mates with 3106, and 3108 plugs.



Shell Size	B Min.	E Max.	E Min.	G Max.	K Max.	L Max.	L' Max.	M		P Max.	S' Max.	V Max.	W Max.
								+0.031 (0.79)	-0.000 (0.00)				
8S	.375 (9.53)	.235 (5.97)	.102 (2.59)	.844 (21.44)	.125 (3.18)	2.250 (57.15)	1.838 (46.69)	.562 (14.27)	.890 (22.61)	.515 (13.08)	.840 (21.34)	1.046 (26.57)	
10S	.375 (9.53)	.235 (5.97)	.102 (2.59)	.969 (24.61)	.125 (3.18)	2.250 (57.15)	1.838 (46.69)	.562 (14.27)	.890 (22.61)	.640 (16.26)	.840 (21.34)	1.046 (26.57)	
10SL	.375 (9.53)	.297 (7.54)	.140 (3.56)	1.062 (26.97)	.125 (3.18)	2.250 (57.15)	1.838 (46.69)	.562 (14.27)	.970 (24.64)	.640 (16.26)	.900 (22.86)	1.125 (28.58)	
12S	.375 (9.53)	.297 (7.54)	.140 (3.56)	1.062 (26.97)	.140 (3.56)	2.250 (57.15)	1.838 (46.69)	.562 (14.27)	.970 (24.64)	.765 (19.43)	.900 (22.86)	1.125 (28.58)	
14S	.375 (9.53)	.422 (10.72)	.195 (4.95)	1.156 (29.36)	.140 (3.56)	2.250 (57.15)	1.838 (46.69)	.562 (14.27)	1.150 (29.21)	.890 (22.61)	1.100 (27.94)	1.343 (34.11)	
16S	.375 (9.53)	.547 (13.89)	.255 (6.48)	1.281 (32.54)	.140 (3.56)	2.250 (57.15)	1.838 (46.69)	.562 (14.27)	1.250 (31.75)	1.015 (25.78)	1.200 (30.48)	1.484 (37.69)	
12	.625 (15.88)	.297 (7.54)	.140 (3.56)	1.062 (26.97)	.146 (3.71)	2.625 (66.68)	2.181 (55.40)	.750 (19.05)	.970 (24.64)	.765 (19.43)	.900 (22.86)	1.125 (28.58)	
14	.625 (15.88)	.422 (10.72)	.195 (4.95)	1.156 (29.36)	.146 (3.71)	2.625 (66.68)	2.181 (55.40)	.750 (19.05)	1.150 (29.21)	.890 (22.61)	1.100 (27.94)	1.343 (34.11)	
16	.625 (15.88)	.547 (13.89)	.255 (6.48)	1.281 (32.54)	.146 (3.71)	2.625 (66.68)	2.181 (55.40)	.750 (19.05)	1.250 (31.75)	1.015 (25.78)	1.200 (30.48)	1.484 (37.69)	
18	.625 (15.88)	.610 (15.49)	.285 (7.24)	1.344 (34.14)	.180 (4.57)	2.688 (68.28)	2.181 (55.40)	.750 (19.05)	1.450 (36.83)	1.140 (28.96)	1.300 (33.02)	1.609 (40.87)	
20	.625 (15.88)	.735 (18.67)	.350 (8.89)	1.500 (38.10)	.180 (4.57)	2.750 (69.85)	2.181 (55.40)	.750 (19.05)	1.570 (39.88)	1.265 (32.13)	1.500 (38.10)	1.890 (48.01)	
22	.625 (15.88)	.740 (18.80)	.350 (8.89)	1.625 (41.28)	.180 (4.57)	2.750 (69.85)	2.181 (55.40)	.750 (19.05)	1.570 (39.88)	1.390 (35.31)	1.500 (38.10)	1.890 (48.01)	
24	.625 (15.88)	.922 (23.42)	.468 (11.89)	1.750 (44.45)	.203 (5.16)	2.969 (75.44)	2.181 (55.40)	.812 (20.62)	1.880 (47.75)	1.515 (38.48)	1.740 (44.20)	2.170 (55.12)	
28	.625 (15.88)	.922 (23.42)	.468 (11.89)	2.000 (50.80)	.203 (5.16)	3.031 (76.99)	2.181 (55.40)	.812 (20.62)	1.880 (47.75)	1.765 (44.83)	1.740 (44.20)	2.170 (55.12)	
32	.625 (15.88)	1.235 (31.37)	.664 (15.87)	2.250 (57.15)	.203 (5.16)	3.031 (76.99)	2.322 (58.98)	.875 (22.23)	2.205 (56.01)	2.015 (51.18)	2.075 (52.71)	2.656 (67.46)	
36	.625 (15.88)	1.360 (34.54)	.694 (17.63)	2.500 (63.50)	.203 (5.16)	3.281 (84.34)	2.322 (58.98)	.875 (22.23)	2.400 (60.96)	2.270 (57.66)	2.300 (58.42)	2.922 (74.22)	
40	.625 (15.88)	1.628 (41.35)	.911 (23.14)	2.750 (69.85)	.203 (5.16)	3.560 (89.66)†	2.427 (61.65)†	.875 (22.23)	2.840 (72.14)	2.427 (61.65)	2.688 (68.28)	-	

† Not to MS specification

Shell Size	A Thread	Shell Size	A Thread
8S	1/2-28UNEF-2A	16	1-20UNEF-2A
10S	5/8-24UNEF-2A	18	1-1/8-18UNEF-2A
10SL	5/8-24UNEF-2A	20	1-1/4-18UNEF-2A
12S	3/4-20UNEF-2A	22	1-3/8-18UNEF-2A
14S	7/8-20UNEF-2A	24	1-1/2-18UNEF-2A
16S	1-20UNEF-2A	28	1-3/4-18UNS-2A
12	3/4-20UNEF-2A	32	2-18UNS-2A
14	7/8-20UNEF-2A	36	2-1/4-16UN-2A
		40	2-1/2-16UN-2A

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Dimensions shown in inches (mm)
Specifications and dimensions subject to change

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A

Circular

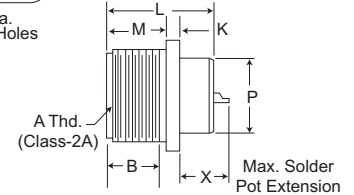
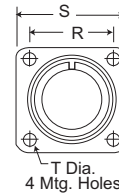
Box Mounting Receptacle

MS3102E / MS3102R

CA3102E / CA3102R



Shell Size	X DIMENSION				
	Max. Solder Pot Ext. - Pin or Socket				
	Contact Size				
	16	12	8	4	0
8S, 10S, 10SL	.534	-	-	-	-
12S, 14S, 16S	.518	-	-	-	-
12	.705	.705	-	-	-
14	.705	.705	.767	-	-
16	.705	.705	.767	.767	-
18	.674	.674	.736	.736	-
20, 22	.674	.674	.736	.736	.971
24, 28	.612	.612	.674	.674	.909
32, 36	.549	.549	.611	.611	.846



MS3102E and MS3102R box mounting receptacles are used in junction boxes or as an integral part of equipment. These connectors are identical in construction and will mate with 3106 and 3108 plugs. For new equipment, customers should specify MS3102R.

Straight Plug

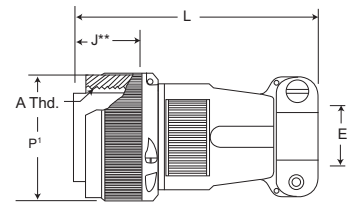
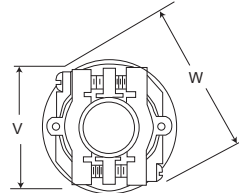
MS3106E / MS3106F

CA3106E / CA3106E

MS3106F straight plugs mate with 3100, 3102 and 3102 receptacles.



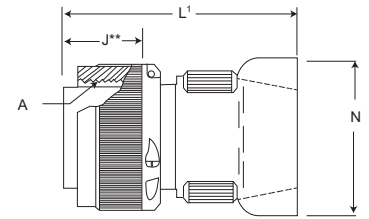
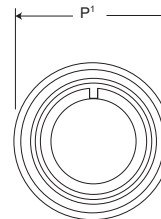
MS3106E is available upon request. For new equipment, customer should specify MS3106F. MS3106E is identical to MS3106F except to O-ring under the coupling nut.



MS3106R

CA3106R

MS3106R straight plug is identical in purpose to the MS3106F. The MS3106R has the shorter endbell. This plug will mate with 3100, 3101, and 3102 receptacles.



Shell Size	E Max.	E Min.	J** Max.	L Max.	L' Max.	N Max.	P' Max.	V Max.	W Max.
8S	.235 (5.97)	.102 (2.59)	.536 (13.61)	2.250 (57.15)	1.838 (46.69)	.890 (22.61)	.844 (21.44)	.840 (21.34)	1.046 (26.57)
10S	.235 (5.97)	.102 (2.59)	.536 (13.61)	2.250 (57.15)	1.838 (46.69)	.890 (22.61)	.969 (24.61)	.840 (21.34)	1.046 (26.57)
10SL	.297 (7.54)	.140 (3.56)	.536 (13.61)	2.250 (57.15)	1.838 (46.69)	.970 (24.64)	.969 (24.61)	.900 (22.86)	1.125 (28.58)
12S	.297 (7.54)	.140 (3.56)	.536 (13.61)	2.250 (57.15)	1.838 (46.69)	.970 (24.64)	1.062 (26.97)	.900 (22.86)	1.125 (28.58)
14S	.422 (10.72)	.195 (4.95)	.536 (13.61)	2.250 (57.15)	1.838 (46.69)	1.150 (29.21)	1.156 (29.36)	1.100 (27.94)	1.343 (34.11)
16S	.547 (13.89)	.255 (6.48)	.536 (13.61)	2.250 (57.15)	1.838 (46.69)	1.250 (31.75)	1.250 (31.75)	1.200 (30.48)	1.484 (37.69)
12	.297 (7.54)	.140 (3.56)	.724 (18.39)	2.625 (66.68)	2.181 (55.40)	.970 (24.64)	1.062 (26.97)	.900 (22.86)	1.125 (28.58)
14	.422 (10.72)	.195 (4.95)	.724 (18.39)	2.625 (66.68)	2.181 (55.40)	1.150 (29.21)	1.156 (29.36)	1.100 (27.94)	1.343 (34.11)
16	.547 (13.89)	.255 (6.48)	.724 (18.39)	2.625 (66.68)	2.181 (55.40)	1.250 (31.75)	1.250 (31.75)	1.200 (30.48)	1.484 (37.69)
18	.610 (15.49)	.285 (7.24)	.724 (18.39)	2.688 (68.28)	2.181 (55.40)	1.450 (36.83)	1.344 (34.14)	1.300 (33.02)	1.609 (40.87)
20	.735 (18.67)	.350 (8.89)	.724 (18.39)	2.750 (69.85)	2.181 (55.40)	1.570 (39.88)	1.469 (37.31)	1.500 (38.10)	1.890 (48.01)
22	.740 (18.80)	.350 (8.89)	.724 (18.39)	2.750 (69.85)	2.181 (55.40)	1.570 (39.88)	1.594 (40.49)	1.500 (38.10)	1.890 (48.01)
24	.922 (23.42)	.468 (11.89)	.724 (18.39)	2.969 (75.44)	2.181 (55.40)	1.880 (47.75)	1.719 (43.66)	1.740 (44.20)	2.170 (55.12)
28	.922 (23.42)	.468 (11.89)	.724 (18.39)	3.031 (76.99)	2.181 (55.40)	1.880 (47.75)	1.969 (50.01)	1.740 (44.20)	2.170 (55.12)
32	1.235 (31.37)	.664 (15.87)	.724 (18.39)	3.031 (76.99)	2.322 (58.98)	2.205 (56.01)	2.219 (56.36)	2.075 (52.71)	2.656 (67.46)
36	1.360 (34.54)	.694 (17.63)	.724 (18.39)	3.281 (84.34)	2.322 (58.98)	2.400 (60.96)	2.469 (62.71)	2.300 (58.42)	2.922 (74.22)
40	1.628 (41.35)	.911 (23.14)	.724 (18.39)	3.560 (89.66)†	2.427 (61.65)†	2.840 (72.14)	2.723 (69.16)†	2.688 (68.28)	-

† Not to MS specification

Dimensions shown in inches (mm)
Specifications and dimensions subject to change

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A

Circular

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Straight Plug (continued)

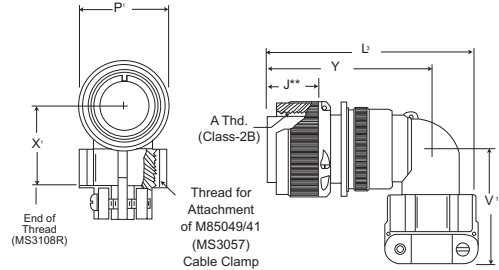
Shell Size	A Thread	Shell Size	A Thread
8S	1/2-28UNEF-2A	16	1-20UNEF-2A
10S	5/8-24UNEF-2A	18	1-1/8-18UNEF-2A
10SL	5/8-24UNEF-2A	20	1-1/4-18UNEF-2A
12S	3/4-20UNEF-2A	22	1-3/8-18UNEF-2A
14S	7/8-20UNEF-2A	24	1-1/2-18UNEF-2A
16S	1-20UNEF-2A	28	1-3/4-18UNS-2A
12	3/4-20UNEF-2A	32	2-18UNS-2A
14	7/8-20UNEF-2A	36	2-1/4-16UN-2A
		40	2-1/2-16UN-2A

90° Angle Plug

MS3108E / MS3108R

CA3108E / CA3108R

MS3108R 90° angle plugs with O-ring seal (less cable clamp) and the MS3108E 90° angle plugs (less O-ring seal with cable clamp) are used where there is limited space and where wires must be brought at abrupt angles. These plugs will mate with 3100, 3101 and 3102 receptacles.



Shell Size	B Min.	J** Max.	K Max.	L Max.	L ³ Max.	M		P Max.	P ¹ Max.	R ± .005	S ± .031	T + .010 - .005	V ¹ Max.	X ¹ Max.	Y Max.
						+ .031 (0.79) - .000 (0.00)									
8S	.375 (9.53)	.536 (13.61)	.125 (3.18)	1.040 (26.42)	2.156 (54.76)	.562 (14.27)	.426 (10.86)	.844 (21.44)	.594 (15.09)	.875 (22.23)	.120 (3.05)	1.281 (30.94)	.811 (20.60)	1.640 (41.66)	
10S	.375 (9.53)	.536 (13.61)	.125 (3.18)	1.040 (26.42)	2.156 (54.76)	.562 (14.27)	.520 (13.21)	.969 (24.61)	.719 (18.26)	1.000 (25.40)	.120 (3.05)	1.250 (31.75)	.842 (21.39)	1.640 (41.66)	
10SL	.375 (9.53)	.536 (13.61)	.125 (3.18)	1.040 (26.42)	2.188 (55.58)	.562 (14.27)	.614 (15.60)	.969 (24.61)	.719 (18.26)	1.000 (25.40)	.120 (3.05)	1.281 (32.54)	.873 (22.17)	1.703 (43.26)	
12S	.375 (9.53)	.536 (13.61)	.140 (3.56)	1.040 (26.42)	2.188 (55.58)	.562 (14.27)	.614 (15.60)	1.062 (26.97)	.812 (20.62)	1.094 (27.79)	.120 (3.05)	1.281 (32.54)	.873 (22.17)	1.703 (43.26)	
14S	.375 (9.53)	.536 (13.61)	.140 (3.56)	1.040 (26.42)	2.312 (58.72)	.562 (14.27)	.739 (18.77)	1.156 (29.36)	.906 (23.01)	1.188 (30.18)	.120 (3.05)	1.406 (35.71)	.936 (23.77)	1.765 (44.83)	
16S	.375 (9.53)	.536 (13.61)	.140 (3.56)	1.040 (26.42)	2.406 (61.11)	.562 (14.27)	.664 (21.95)	1.250 (31.75)	.969 (24.61)	1.281 (32.54)	.120 (3.05)	1.531 (38.89)	.998 (25.35)	1.796 (45.62)	
12	.625 (15.88)	.724 (18.39)	.146 (3.71)	1.400 (35.56)	2.531 (64.29)	.750 (19.05)	.614 (15.60)	1.062 (26.97)	.812 (20.62)	1.094 (27.79)	.120 (3.05)	1.281 (32.54)	.873 (22.17)	2.062 (52.37)	
14	.625 (15.88)	.724 (18.39)	.146 (3.71)	1.400 (35.56)	2.688 (68.28)	.750 (19.05)	.739 (18.77)	1.156 (29.36)	.906 (23.01)	1.188 (30.18)	.120 (3.05)	1.406 (35.71)	.936 (23.77)	2.125 (53.98)	
16	.625 (15.88)	.724 (18.39)	.146 (3.71)	1.400 (35.56)	2.781 (70.64)	.750 (19.05)	.864 (21.95)	1.250 (31.75)	.969 (24.61)	1.281 (32.54)	.120 (3.05)	1.531 (38.89)	.998 (25.35)	2.156 (54.76)	
18	.625 (15.88)	.724 (18.39)	.180 (4.57)	1.400 (35.56)	2.844 (72.24)	.750 (19.05)	.989 (25.12)	1.344 (34.14)	1.062 (26.97)	1.375 (34.93)	.120 (3.05)	1.593 (40.46)	1.061 (26.95)	2.250 (57.15)	
20	.625 (15.88)	.724 (18.39)	.180 (4.57)	1.400 (35.56)	3.250 (82.55)	.750 (19.05)	1.145 (29.08)	1.469 (37.31)	1.156 (29.36)	1.500 (38.10)	.120 (3.05)	1.656 (42.06)	1.123 (28.52)	2.312 (58.72)	
22	.625 (15.88)	.724 (18.39)	.180 (4.57)	1.400 (35.56)	3.250 (82.55)	.750 (19.05)	1.270 (32.26)	1.594 (40.49)	1.250 (31.75)	1.625 (41.28)	.120 (3.05)	1.718 (43.64)	1.186 (30.12)	2.312 (58.72)	
24	.625 (15.88)	.724 (18.39)	.203 (5.16)	1.400 (35.56)	3.719 (94.46)	.812 (20.62)	1.395 (35.43)	1.719 (43.66)	1.375 (34.93)	1.750 (44.45)	.147 (3.73)	1.890 (48.01)	1.263 (32.08)	2.531 (64.29)	
28	.625 (15.88)	.724 (18.39)	.203 (5.16)	1.400 (35.56)	3.719 (94.46)	.812 (20.62)	1.614 (41.00)	1.969 (50.01)	1.562 (39.67)	2.000 (50.80)	.147 (3.73)	1.968 (49.99)	1.342 (34.09)	2.531 (64.29)	
32	.625 (15.88)	.724 (18.39)	.203 (5.16)	1.400 (35.56)	4.188 (106.38)	.875 (22.23)	1.864 (47.35)	2.219 (56.36)	1.750 (44.45)	2.250 (57.15)	.173 (4.39)	2.187 (55.55)	1.561 (39.65)	2.750 (69.85)	
36	.625 (15.88)	.724 (18.39)	.203 (5.16)	1.400 (35.56)	4.297 (109.14)	.875 (22.23)	2.051 (52.10)	2.469 (62.71)	1.938 (49.23)	2.500 (63.50)	.173 (4.39)	2.406 (61.11)	1.780 (45.21)	2.875 (73.02)	
40	.625 (15.88)	.724 (18.39)	.203 (5.16)	1.400 (35.56)	7.211 (183.10)†	.875 (22.23)	2.390 (60.71)	2.723 (69.16)†	2.188 (55.58)	2.750 (69.85)	.173 (4.39)	5.875 (149.22)	-	5.690 (144.53)	

† Not to MS specification

Shell Size	A Thread		Shell Size	A Thread	
	Box Mounting Receptacle	90° Angle Plug		Box Mounting Receptacle	90° Angle Plug
8S	1/2-28UNEF-2A	1/2-28UNEF-2B	16	1-20UNEF-2A	1-20UNEF-2B
10S	5/8-24UNEF-2A	5/8-24UNEF-2B	18	1-1/8-18UNEF-2A	1-1/8-18UNEF-2B
10SL	5/8-24UNEF-2A	5/8-24UNEF-2B	20	1-1/4-18UNEF-2A	1-1/4-18UNEF-2B
12S	3/4-20UNEF-2A	3/4-20UNEF-2B	22	1-3/8-18UNEF-2A	1-3/8-18UNEF-2B
14S	7/8-20UNEF-2A	7/8-20UNEF-2B	24	1-1/2-18UNEF-2A	1-1/2-18UNEF-2B
16S	1-20UNEF-2A	1-20UNEF-2B	28	1-3/4-18UNS-2A	1-3/4-18UNS-2B
12	3/4-20UNEF-2A	3/4-20UNEF-2B	32	2-18UNS-2A	2-18UNS-2B
14	7/8-20UNEF-2A	7/8-20UNEF-2B	36	2-1/4-16UN-2A	2-1/4-16UN-2B
			40	2-1/2-16UN-2A	2-1/2-16UN-2B

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Dimensions shown in inches (mm)
Specifications and dimensions subject to change

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A

Circular

Components

MS3106R
CA3106R
Straight Plug

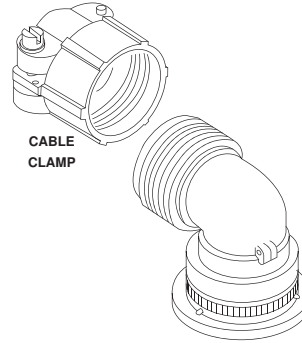
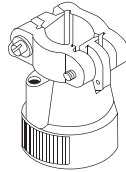
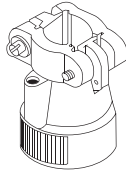
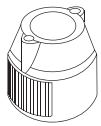
MS3106F
CA06R
Straight Plug

MS3106E*
CA3106E
Straight Plug

MS3108E
CA3108E
90° Angle Plug

MS3108R
CA3108R
90° Angle Plug

Endbell



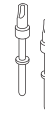
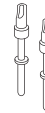
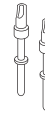
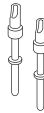
Ferrule



Grommet



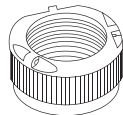
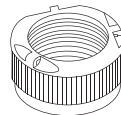
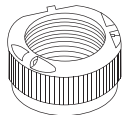
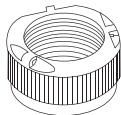
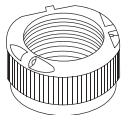
Pin Contacts



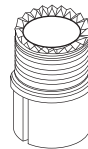
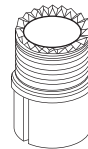
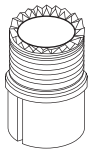
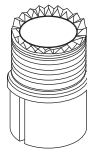
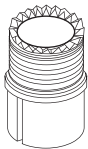
Insulator



Coupling Nut



Barrel



O Ring



Note: Class F is not applicable to MS3108 shell style.

* Class E inactive for new design. Use Class F or R.

Dimensions shown in inches (mm)
Specifications and dimensions subject to change

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A

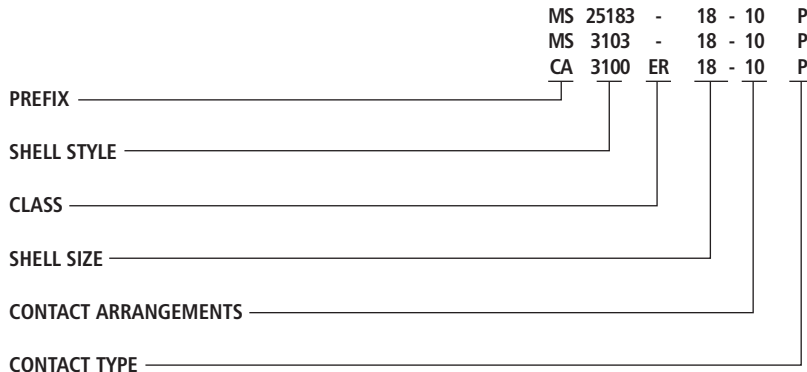
Circular

MS type potting connectors are available with nylon cups. 00 and 06 shell styles with plastic cups and resilient insulators meet the requirements of MS3103 and MS25183. Also available is the 08 plug with resilient insulator and 90° angle nylon potting cup.

ITT Cannon provides for a 1/4" clearance for potting on all contact sizes.



How To Order



PREFIX
CA - ITT Cannon prefix indicating special application or variation of MS

SHELL STYLE
3100 - Wall mounting receptacle (MS3103)
3106 - Straight Plug (MS325183)
3108 - 90° angle plug

CLASS
ER - Resilient insulator, nylon potting cup and thread attachment ring
No class designator for MS types.

SHELL STYLE
Coupling thread diameter figured in sixteenths of an inch

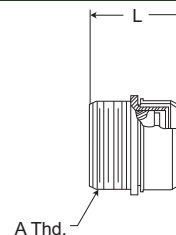
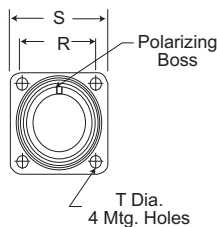
CONTACT ARRANGEMENTS
See pages A-85 – A-89

CONTACT TYPE
P - Pin
S - Socket

Wall Mounting Receptacle

MS3103
Nylon Potting Cup
Threaded Attachment Ring

CA3100ER



The CA3100ER receptacle (MS3103) is supplied with a resilient insulator and nylon potting cup with a threaded attachment ring. This receptacle mates with 3106 and 3108 plugs.

Shell Size	L Max.	R ± .005 (±0.13)	S Max.	R		A Thread
				+.010 (+0.25)	-.005 (-.031)	
8S	1.531 (38.89)	.594 (15.09)	.906 (23.01)	.120 (3.05)		1/2-28UNEF-2A
10S	1.531 (38.89)	.719 (18.26)	1.031 (26.19)	.120 (3.05)		5/8-24NEF-2A
10SL	1.531 (38.89)	.719 (18.26)	1.031 (26.19)	.120 (3.05)		5/8-24NEF-2A
12S	1.531 (38.89)	.812 (20.62)	1.125 (28.58)	.120 (3.05)		3/4-20UNEF-2A
14S	1.531 (38.89)	.906 (23.01)	1.219 (30.96)	.120 (3.05)		7/8-20UNEF-2A
16S	1.531 (38.89)	.969 (24.61)	1.312 (33.32)	.120 (3.05)		1-20UNEF-2A
12	1.968 (49.99)	.812 (20.62)	1.125 (28.58)	.120 (3.05)		3/4-20UNEF-2A
14	1.968 (49.99)	.906 (23.01)	1.219 (30.96)	.120 (3.05)		3/4-20UNEF-2A
16	1.968 (49.99)	.969 (24.61)	1.312 (33.32)	.120 (3.05)		1-20UNEF-2A
18	1.968 (49.99)	1.062 (26.97)	1.406 (35.71)	.120 (3.05)		1-1/8-18NEF-2A
20	2.188 (55.58)	1.156 (29.36)	1.531 (38.89)	.120 (3.05)		1-1/4-18NEF-2A
22	2.188 (55.58)	1.250 (31.75)	1.656 (42.06)	.120 (3.05)		1-3/8-18NEF-2A
24	2.188 (55.58)	1.375 (34.93)	1.781 (45.24)	.147 (3.73)		1-1/2-18NEF-2A
28	2.188 (55.58)	1.562 (39.67)	2.031 (51.59)	.147 (3.73)		1-3/4-18NS-2A
32	2.188 (55.58)	1.750 (44.45)	2.281 (57.94)	.173 (4.39)		2-18NS-2A
36	2.188 (55.58)	1.938 (49.23)	2.531 (64.29)	.173 (4.39)		2-1/4-16UN-2A

Performance Specifications - Page A-84

Contact, Ceiling Plugs, Assembly Tools - Page A-105

Contact Arrangements - Page A-85 – A-89



Dimensions shown in inches (mm)
Specifications and dimensions subject to change

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