



ITT

Interconnect Solutions
Cannon, VEAM, BIW

Providing over **20 years**
of shipboard navigational **guidance and safety**
without a single failure

Photo courtesy of DOD



Engineered for life

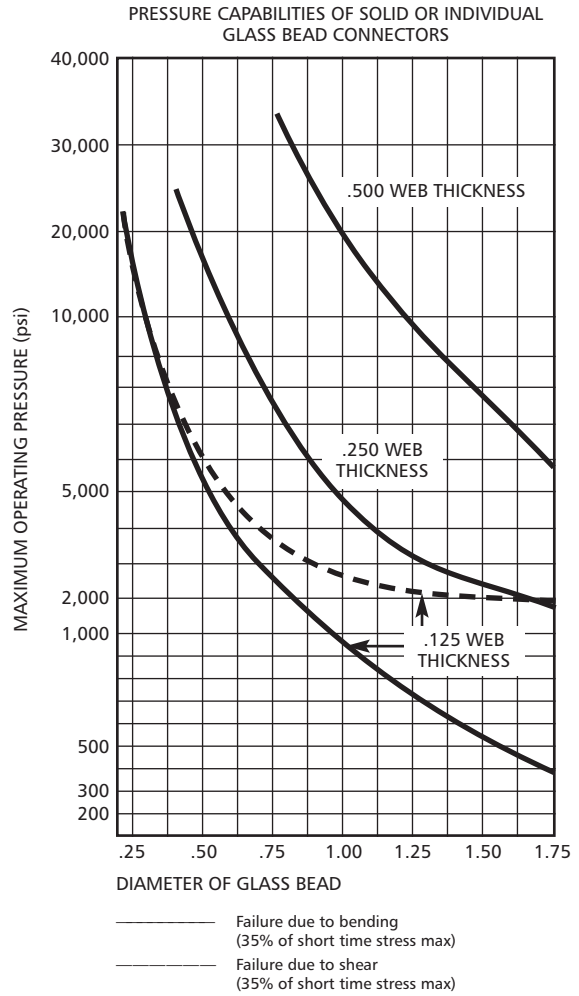
Glass Sealed Hermetic Connectors

Users around the world have found that ITT Cannon hermetic connectors function reliably under extreme environmental conditions. Hermetic connectors are impervious to most liquids and gases, including acids, alkalis, oils, gasoline, jet fuel and hydraulic fluids. They can take shock loads as high as 100 g's with no loss in hermeticity, and can take extremes of both heat and cold with no loss of performance.

Manufacturing Expertise

Cannon compression glass seals are strong. A 50,000 psi compression stress generates a sealing force that can withstand up to 10,000 psi differential pressure (pressure varies with connector type). Since it is independent of adhesion, the seal has a temperature capability of -260° to +450° Fahrenheit. The seal has high radiation resistance and a leak rate of less than 10^{-8} cc per second.

All ITT Cannon hermetic connectors are 100% tested after fabrication. A stringent examination ensures that all military specifications are met. The product is tested for leak performance, dielectric withstanding voltage and insulation resistance.



Compression Glass Seals

Glass is an ideal electrical insulating material for connectors. Its mechanical strength readily supports contacts. The compression seal is achieved by placing a glass preform within the surrounding metal shell, heating the glass and shell to the glass melting temperature, and then cooling the assembly. As the assembly cools, the glass becomes rigid and the metal shell begins to compress the glass. This compression provides a very high strength, high reliability hermetic seal.

Custom Design Capabilities

Custom hermetic connectors can be manufactured to meet special requirements. Hermetic connectors have been developed to withstand exposure to propellants, high pressure and high temperature conditions for missiles, "sub-safe" connectors for penetration feed-thru on ships and submarines, connectors for aircraft engines and many more.

This catalog provides a sample of the standard hermetic connectors available from Cannon. If you don't immediately find the connector that is right for your application, we encourage you to call an ITT Cannon technical sales representative in your area or complete and mail the business reply card at the back of this catalog.



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MIL-C-38999 Series I, II, III Miniature Circular KJLY / KJY / KJAY

- High contact density
- 100% scoop proof – Series I and III
- Lightweight Low Profile – Series II
- Environment-resistant
- Operating temperature range from -85°F to +392°F (-65°C to +200°C)

ITT Cannon's KJLY, KJY and KJAY connectors are hermetically sealed and designed to meet the critical performance and design requirements of MIL-C-38999. Engineered for high density circuitry capabilities, these connectors are designed to operate at temperatures ranging from -85°F to +392°F (-65°C to +200°C).

They are readily adaptable to both commercial and space age requirements where size, weight, scoop proof/low-profile design and high reliability are key factors.

The KJLY and KJAY are designed with a "scoop-proof" feature which provides a safety factor in blind mating applications. The shells also feature five keyway shell polarization to assure alignment during engagement. Complete environment sealing is accomplished with an interfacial seal, with individual raised tapered sealing barriers around each pin contact, a peripheral seal, and hermetic sealing.

ITT Cannon's MIL-C-38999 KJLY, KJY and KJAY connector series offers these advanced features to meet the demands of present-day sophisticated engineering designs.

Standard Data

MATERIALS AND FINISHES

Shell	As noted in "How to Order" sections
Insulator	Compression Glass
Contacts	Nickel / Iron Alloy, Gold Plate
Seals	Silicone base elastomer
Jam Nut	As noted in "How to Order" sections

MATERIALS AND FINISHES

Contact Size 22D, 20, 16, and 12

Contact Rating and Wire Size Accommodation

Wire Size	Contact Size and Test amps					
	22D	*22M	*22	20	16	12
28	1.5	1.5	—	—	—	—
26	2.0	2.0	2.0	—	—	—
24	3.0	3.0	3.0	3.0	—	—
22	5.0	—	5.0	5.0	—	—
20	—	—	—	7.5	7.5	—
18	—	—	—	—	10.0	—
16	—	—	—	—	13.0	—
14	—	—	—	—	—	7.0
12	—	—	—	—	—	23.0

*Inactive for new design

Service Rating (unmated condition)

Test Voltages	Service Rating M	Service Rating I	Service Rating II
Sea Level	1300	1800	2300
110,000 ft.	200	200	200

MECHANICAL

	KJLY / KJAY	KJY
Shell Styles	2 – Box mounting receptacle 1 – Solder mount receptacle 7 – Jam nut receptacle	0 – Wall mounting receptacle 1 – Solder mount receptacle 7 – Jam nut receptacle
Shell Sizes	9, 11, 13, 15, 17, 19, 21, 23, 25	8, 10, 12, 14, 16, 18, 20, 22, 24
Coupling	3 point bayonet, quick release/triple start Acme	3 point bayonet, quick release
Shell polarization	5 keyways	5 keyways
Design	Scoop-proof	Low-profile



Test Data

TEST DESCRIPTION	PARAGRAPH REFERENCE	REQUIREMENTS																																									
Thermal Shock	4.7.3	Unmated receptacles shall be subjected to 10 cycles of thermal shock per Step 1 and Step 2 of MIL-C-38999.																																									
Air Leakage	4.7.5	The connector shall be mounted in a suitable test apparatus. A pressure differential of 1 atmosphere shall be applied across the connector. A suitable means to determine the leakage through the connector of air or other pressurizing gas, containing not less than 10 percent helium by volume, shall be employed while the specified pressure is applied. There shall be no evidence of leakage in excess of 0.01 micron ft ³ /h (x 10 ⁻⁷ cm ³ /s).																																									
Coupling Torque	4.7.6	For qualification testing, mating halves shall be coupled and uncoupled; the forces or torques which must be applied to facilitate full coupling and uncoupling shall be measured and recorded. For quality conformance, suitable gages may be used instead of the appropriate counterparts. The coupling torque for mating and unmating of counterpart connectors shall meet the requirements of Table III, paragraph 4.7.6 MIL-C-38999.																																									
Insulation Resistance	4.7.9.2	Insulation Resistance at ambient temperature — Unmated connectors shall be tested as specified in method 3003 of MIL-STD-1344. Connectors shall be mated when testing after altitude immersion and humidity. The insulation resistance between any pair of contacts and between any contact and the shell shall be greater than 5,000 megohms. Insulation resistance after altitude immersion shall be 10,000 megohms minimum. Insulation resistance after humidity shall be 100 megohms minimum.																																									
	4.7.9.2	Insulation Resistance at elevated temperature — Unmated connectors shall be tested as specified in method 3003 of MIL-STD-1344. Applicable elevated temperature for 30 minutes: Finish D, 150° +5/ -0°C; E; 200° +5/ -0°C. Measurements shall be made while the connectors are still in the chamber at the specified temperature. The insulation resistance between any pair of contacts and between any contact and the shell shall be greater than 200 megohms.																																									
Dielectric Withstanding voltage	4.7.6	Dielectric withstanding voltage at sea level — Wired, unmated connectors shall be tested in accordance with Method 3001 of MIL-STD-1344. Connectors shall be mated when testing after altitude immersion and humidity. The magnitude of the test voltage shall be as specified in Table XIV. The test voltage shall be maintained at the specified value for 2 seconds minimum.																																									
		<p style="text-align: center;">TABLE XIV — TEST VOLTAGES, ac RMS, 60 Hz</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th rowspan="2">Altitude</th> <th colspan="2">Service Rating M</th> <th colspan="2">Service Rating I</th> <th colspan="2">Service Rating II</th> </tr> <tr> <th>Mated</th> <th>Unmated</th> <th>Mated</th> <th>Unmated</th> <th>Mated</th> <th>Unmated</th> </tr> </thead> <tbody> <tr> <td>Sea Level</td> <td>1300</td> <td>1300</td> <td>1800</td> <td>1800</td> <td>2300</td> <td>2300</td> </tr> <tr> <td>50,000 feet</td> <td>800</td> <td>550</td> <td>1000</td> <td>600</td> <td>1000</td> <td>800</td> </tr> <tr> <td>70,000 feet</td> <td>800</td> <td>350</td> <td>1000</td> <td>400</td> <td>1000</td> <td>500</td> </tr> <tr> <td>100,000 feet</td> <td>800</td> <td>200</td> <td>1000</td> <td>200</td> <td>1000</td> <td>200</td> </tr> </tbody> </table>	Altitude	Service Rating M		Service Rating I		Service Rating II		Mated	Unmated	Mated	Unmated	Mated	Unmated	Sea Level	1300	1300	1800	1800	2300	2300	50,000 feet	800	550	1000	600	1000	800	70,000 feet	800	350	1000	400	1000	500	100,000 feet	800	200	1000	200	1000	200
Altitude	Service Rating M			Service Rating I		Service Rating II																																					
	Mated	Unmated	Mated	Unmated	Mated	Unmated																																					
Sea Level	1300	1300	1800	1800	2300	2300																																					
50,000 feet	800	550	1000	600	1000	800																																					
70,000 feet	800	350	1000	400	1000	500																																					
100,000 feet	800	200	1000	200	1000	200																																					
	4.7.10.2	Dielectric withstanding voltage at altitude — Mated connectors and unmated connector halves with pin contacts shall be tested in accordance with method 3001 of MIL-STD-1344. The magnitude of the test voltage shall be as specified in Table XIV. The test voltage shall be maintained at the specified value for 2 seconds minimum. Only the engaging faces of hermetics shall be subject to the high altitude. The rear face shall be suitably protected. The chamber shall be evacuated to each of the specified altitude pressure equivalents listed below. <table style="margin-left: auto; margin-right: auto;"><thead><tr><th>Altitude</th><th>Equivalent Pressure</th></tr></thead><tbody><tr><td>50,000 feet</td><td>87.5 torr</td></tr><tr><td>70,000 feet</td><td>35.5 torr</td></tr><tr><td>100,000 feet</td><td>5.74 torr</td></tr></tbody></table> When tested as specified in 4.7.10.1 or 4.7.10.2 connectors shall show no evidence of flashover or breakdown.	Altitude	Equivalent Pressure	50,000 feet	87.5 torr	70,000 feet	35.5 torr	100,000 feet	5.74 torr																																	
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70,000 feet	35.5 torr																																										
100,000 feet	5.74 torr																																										
Contact Resistance	4.7.13	Contacts of mated connectors shall be tested in accordance with method 3004 of MIL-STD-1344. Contacts in the mated condition shall meet the contact resistance requirements of Table IV, paragraph 4.7.13 MIL-C-38999. Lead resistance may be included in the measurement.																																									
		<p style="text-align: center;">TABLE IV — CONTACT RESISTANCE</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th rowspan="2">Class</th> <th rowspan="2">Contact Size</th> <th rowspan="2">Wire Size</th> <th rowspan="2">Test Amperes</th> <th colspan="2">Millivolt drop maximum</th> <th colspan="2">Maximum Resistance in milliohms</th> </tr> <tr> <th>Initial</th> <th>After corrosion or temp durability</th> <th>Initial</th> <th>After corrosion or temp durability</th> </tr> </thead> <tbody> <tr> <td rowspan="4">Y & N</td> <td>12</td> <td>12</td> <td>17</td> <td>85</td> <td>100</td> <td>5</td> <td>6</td> </tr> <tr> <td>16</td> <td>16</td> <td>10</td> <td>85</td> <td>100</td> <td>8</td> <td>10</td> </tr> <tr> <td>20</td> <td>20</td> <td>5</td> <td>60</td> <td>75</td> <td>12</td> <td>15</td> </tr> <tr> <td>220</td> <td>22</td> <td>3</td> <td>85</td> <td>95</td> <td>28</td> <td>32</td> </tr> </tbody> </table>	Class	Contact Size	Wire Size	Test Amperes	Millivolt drop maximum		Maximum Resistance in milliohms		Initial	After corrosion or temp durability	Initial	After corrosion or temp durability	Y & N	12	12	17	85	100	5	6	16	16	10	85	100	8	10	20	20	5	60	75	12	15	220	22	3	85	95	28	32
Class	Contact Size	Wire Size					Test Amperes	Millivolt drop maximum		Maximum Resistance in milliohms																																	
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Y & N	12	12	17	85	100	5	6																																				
	16	16	10	85	100	8	10																																				
	20	20	5	60	75	12	15																																				
	220	22	3	85	95	28	32																																				
Vibration	4.7.22	For qualification only, wired and mated connectors shall be subjected to the applicable test(s) specified. Connectors shall be mounted on the vibration table by normal means. All contacts shall be wired in a series circuit with 100 milliamperes maximum current flow through the series circuit during vibration. Connectors shall be continuously monitored for all discontinuities. A detector capable of detecting any discontinuities in excess of 1 microsecond shall be used.																																									
Shock	4.7.23	Wired and mated connectors shall be subjected to the applicable test specified. Connectors shall be mounted by normal means and held together by normal coupling means. All contacts shall be wired in a series circuit with 100 milliamperes maximum current flow through the series circuit during shock. Connectors shall be monitored for any discontinuities. A detector capable of detecting any discontinuities in excess of 1 microsecond shall be used.																																									

Contact Arrangements (Engaging View Pin Insert)

* Socket inset only

** Pin insert only (not available in socket insert Series I and III)

† Indicates layouts are available in all shell styles including MS27499, MS27508, KJ2E, and KJ5E.

• Consult factory for MS27505E / KJL5E insert availability.

Series III	X	9-98	9-35	—	11-5	—	11-98	—	11-35	—	13-8
Series II	8-6†	9-98†	8-35†	—	10-5†	—	10-98†	—	10-35†	—	12-8†
Series I	9-6**	9-98	9-35	—	11-5	—	11-98	—	11-35	—	13-8
No. of Contacts	6 # 22M	3 # 20	6 # 22D	4 # 20	5 # 20	13 # 22M	6 # 20	7 # 20	13 # 22D	3 # 16	4 # 16
Service Ratings	M	I	M	I	I	M	I	I	M	II	I

Series III	13-98	13-35	15-5	15-15	15-18	15-19	15-35
Series II	12-98†	12-35†	14-5†	14-15†	14-18†	—	14-35†
Series I	13-98	13-35	15-5	15-15	15-18	15-19	15-35
No. of Contacts	10 # 20	22 # 22D	5 # 16	14 # 20, 1 # 16	18 # 20	19 # 20	37 # 22D
Service Ratings	I	M	II	I	I	I	M

Series III	15-97	17-6	17-8	17-26	17-35	—	—
Series II	14-97†	16-6	16-8†	16-26†	16-35†	—	16-99†
Series I	15-97	17-6	17-8	17-26	17-35	—	17-99**
No. of Contacts	8 # 20, 4 # 16	6 # 12	8 # 16	26 # 20	55 # 22D	42 # 22	21 # 20, 2 # 16
Service Ratings	I	I	II	I	M	M	I

Series III	—	—	19-11	19-32	19-35
Series II	18-28	18-30	18-11	18-32†	18-35†
Series I	19-28**	19-30**	19-11	19-32	19-35
No. of Contacts	26 # 20, 2 # 16	29 # 20, 1 # 16	11 # 16	32 # 20	66 # 22D
Service Ratings	I	I	II	I	M

Series III	—	—	21-11	21-16	21-35	21-39	21-41
Series II	20-1†	20-2†	—	20-16†	20-35†	20-39†	20-41†
Series I	21-1**	—	21-11	21-16	21-35	21-39	21-41
No. of Contacts	79 # 22M	65 # 22	11 # 12	16 # 16	79 # 22D	37 # 20, 2 # 16	41- # 20
Service Ratings	M	M	I	II	M	I	I

Series III	—	—	23-1	23-2	—	23-35
Series II	22-1†	22-2†	22-1	22-2	23-32	22-35†
Series I	23-1**	23-2**	23-1	23-2	23-32**	23-35
No. of Contacts	100 # 22M	85 # 22	21 # 16	32 # 20	100 # 22D	—
Service Ratings	M	M	II	I	M	—

Please consult factory for availability of layouts not shown.

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

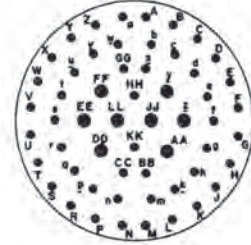
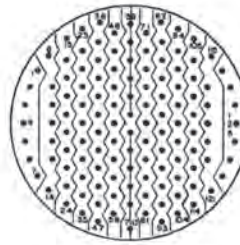
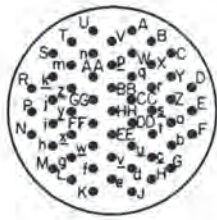
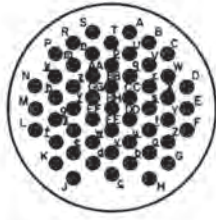
Contact Arrangements (Engaging View Pin Insert)

* Socket inset only

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† Indicates layouts are available in all shell styles including MS27499, MS27508, KJ2E, and KJ5E.

• Consult factory for MS27505E / KJL5E insert availability.



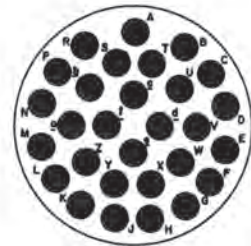
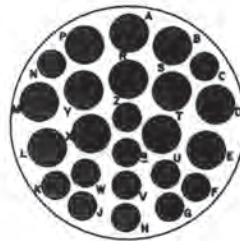
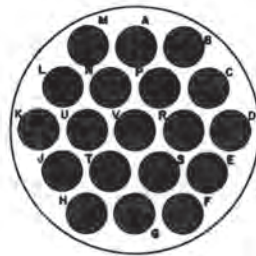
Series III
Series II
Series I
No. of Contacts
Service Ratings

25-53
22-53†
23-53
53 # 20
I

23-55
22-55
23-55
55 # 20
I

—
24-1†
25-1**
128 # 22M
M

—
25-4
24-4†
25-4
48 # 20, 8 # 16
I

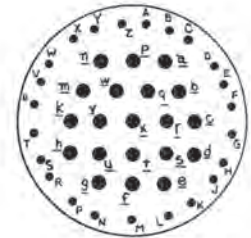
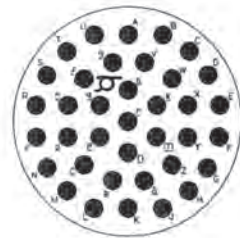
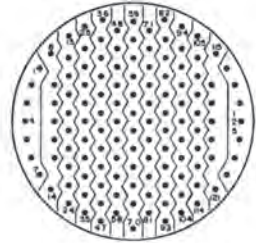


Series III
Series II
Series I
No. of Contacts
Service Ratings

25-19
—
25-19
19 # 12
I

—
25-24
24-24†
25-24
12 # 16, 12 # 12
I

—
25-29
24-29†
25-29
29 # 16
I

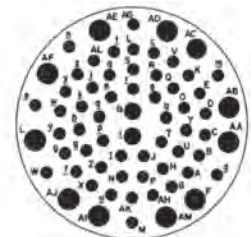
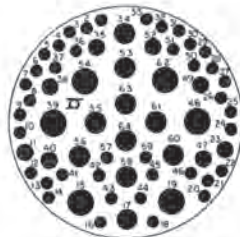
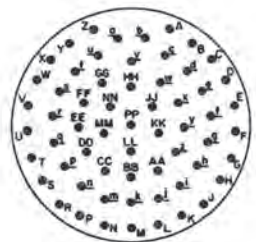


Series III
Series II
Series I
No. of Contacts
Service Ratings

25-35
24-35†
25-35
128 # 22D
M

—
25-37
25-37*•
37 # 16
I

—
25-43
25-43
23 # 20, 20 # 16
I



Series III
Series II
Series I
No. of Contacts
Service Ratings

25-61
24-61
25-61
61 # 20
I

—
25-64*
—
25-64*
40 # 22D, 8 # 20
10 # 16, 6 # 12
I

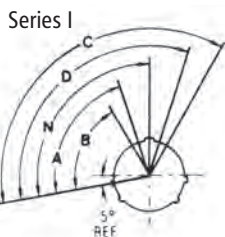
—
25-66*
—
25-66*
53 # 22D, 2 # 20, 11 # 16
I

Please consult factory for availability of layouts not shown.



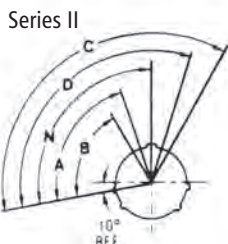
Hermetic Connectors

Polarizing Positions



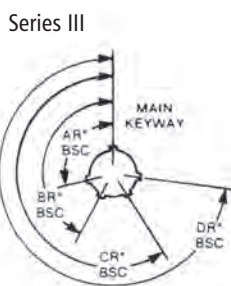
Front face of receptacle (plug opposite). Insert arrangement does not rotate with main key/keyway. The master key is rotated to provide shell polarization; the minor keys remain fixed.

Shell Size	Angle of Rotation (Degrees)				
	Normal	A	B	D	D
9	95°	77°	—	—	113°
11	95°	81°	67°	123°	109°
13	95°	75°	63°	127°	115°
15	95°	74°	61°	129°	116°
17	95°	77°	65°	125°	113°
19	95°	77°	65°	125°	113°
21	95°	77°	65°	125°	113°
23	95°	80°	69°	121°	110°
25	95°	80°	69°	121°	110°

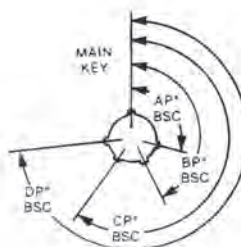


Front face of receptacle (plug opposite). Insert arrangement does not rotate with main key/keyway. The master key is rotated to provide shell polarization; the minor keys remain fixed.

Shell Size	Angle of Rotation (Degrees)				
	Normal	A	B	D	D
8	100°	82°	—	—	118°
10	100°	86°	72°	128°	114°
12	100°	80°	68°	132°	120°
14	100°	79°	66°	134°	121°
16	100°	82°	70°	130°	118°
18	100°	82°	70°	130°	118°
20	100°	82°	70°	130°	118°
22	100°	85°	74°	126°	115°
24	100°	85°	74°	126°	115°



RECEPTACLE
(front face shown)



PLUG
(front face shown)

Shell Size	Key & Keyway Arrangement Identification Letter	Key Locations			
		AR° or AP°	BR° or BP°	CR° or CP°	DR° or DP°
		BSC	BSC	BSC	BSC
9	N	105	140	215	265
	A	102	132	248	320
	B	80	118	230	312
	C	35	140	205	275
	D	64	155	234	304
11 and 13 and 15	E	91	131	197	240
	N	95	141	208	236
	A	113	156	182	292
	B	90	145	195	252
	C	53	156	220	255
17 and 19	D	119	146	176	298
	E	51	141	184	242
	N	80	142	196	293
	A	135	170	200	310
	B	49	169	200	244
21 and 23 and 25	C	66	140	200	257
	D	62	145	180	280
	E	79	153	197	272
	N	80	142	196	293
	A	135	170	200	310
23 and 25	B	49	169	200	244
	C	66	140	200	257
	D	62	145	180	280
25	E	79	153	197	272

NOTES:

1. All angles are BSC
2. The insert arrangement does not rotate with main key/keyway
3. All minor keys are rotated to provide shell polarization, the master key remains fixed at twelve o'clock position
4. Polarization is different from Series I and II



How to Order

ITT Cannon Nomenclature

KJ 7 Y 18 D 35 P N



SERIES PREFIX

KJY — Series II - Low Profile

SHELL STYLE

- 1 — Solder mounting
- 2 — Box mounting receptacle
- 7 — Jam nut receptacle

CLASS

Y — Hermetic

SHELL SIZE

8, 10, 12, 14, 16, 18, 20, 22 and 24

SHELL / HARDWARE FINISH STANDARD

- D — Fused tin -85°F to +302°F (-65°C to +150°C). Jam Nut finish is cadmium/nickel.
- E — Stainless Steel -85°F to +392°F (-65°C to +200°C). Jam Nut finish is passivated.

CONTACT ARRANGEMENT

See pages J-15 to J-16.

CONTACT TYPE

P — Pin; all contacts are gold plated.

ALTERNATE SHELL POSITION

N (normal), A, B, C, D. See page J-17.



ITT Cannon Nomenclature

MS27*** Y 18 D 35 P A



MS NUMBER SHELL STYLE

- MS27477 – Jam Nut Receptacle
- MS27476 – Box Mounting Receptacle
- MS27478 – Solder Mounting

CLASS

Y — Hermetic

SHELL SIZE

8, 10, 12, 14, 16, 18, 20, 22 and 24

HARDWARE FINISH STANDARD

- D — Fused tin -85°F to +302°F (-65°C to +150°C). Jam Nut finish is cadmium/nickel.
- E — Stainless Steel -85°F to +392°F (-65°C to +200°C). Jam Nut finish is passivated.

CONTACT ARRANGEMENT

See pages J-15 to J-16.

CONTACT TYPE

P — Pin; all contacts are gold plated.

ALTERNATE SHELL POSITION

A, B, C and D (not required for normal). See page J-17.

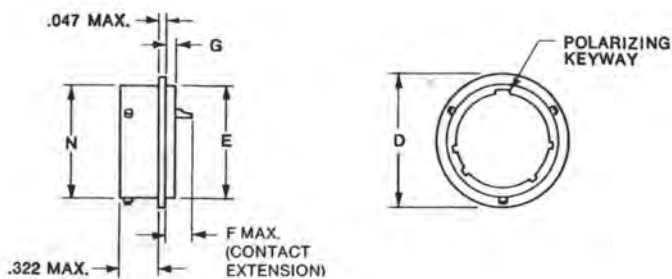
Hermetic Connectors



Solder Mounting Receptacle

MS27478

KJ1Y

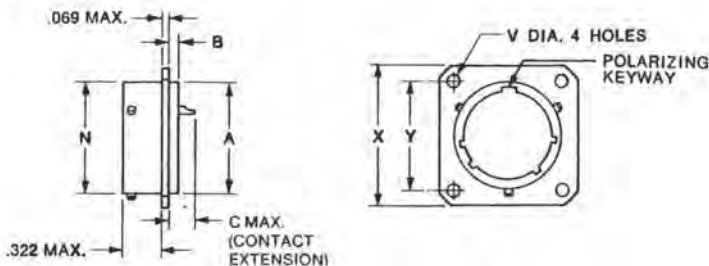


Shell Size	D Dia. Max.	E Dia. Max.	F — Contact Extension				G Max.	N Dia. Max.
			#16	#20	#22D	#22M		
8	.698 (17.73)	.563 (14.30)	.375 (9.52)	.375 (9.52)	.375 (9.52)	.375 (9.52)	.089 (2.26)	.474 (12.04)
10	.808 (20.52)	.673 (17.09)	.375 (9.52)	.375 (9.52)	.375 (9.52)	.375 (9.52)	.089 (2.26)	.591 (15.01)
12	.917 (23.29)	.782 (19.86)	.375 (9.52)	.375 (9.52)	.375 (9.52)	.375 (9.52)	.089 (2.26)	.751 (19.08)
14	1.042 (26.47)	.907 (23.04)	.375 (9.52)	.375 (9.52)	.375 (9.52)	.375 (9.52)	.089 (2.26)	.876 (22.25)
16	1.167 (29.64)	1.032 (26.21)	.375 (9.52)	.375 (9.52)	.375 (9.52)	.375 (9.52)	.089 (2.26)	1.001 (25.43)
18	1.292 (32.82)	1.157 (29.39)	.375 (9.52)	.375 (9.52)	.375 (9.52)	.375 (9.52)	.089 (2.26)	1.126 (28.60)
20	1.386 (35.20)	1.251 (31.78)	.375 (9.52)	.375 (9.52)	.375 (9.52)	.375 (9.52)	.089 (2.26)	1.251 (31.78)
22	1.511 (38.38)	1.376 (34.95)	.375 (9.52)	.375 (9.52)	.375 (9.52)	.375 (9.52)	.118 (3.00)	1.376 (34.95)
24	1.636 (41.55)	1.501 (38.13)	.375 (9.52)	.375 (9.52)	.375 (9.52)	.375 (9.52)	.118 (3.00)	1.501 (38.13)

Box Mounting Receptacle

MS27476

KJ2Y



Shell Size	A Dia. Max.	B Max.	C — Contact Extension				N Dia. Max.	V + .005 + .010	X Max.	X Max.
			#16	#16	#16	#16				
8	.563 (14.30)	.057 (1.45)	.344 (8.74)	.344 (8.74)	.344 (8.74)	.344 (8.74)	.474 (12.04)	.125 (3.18)	.828 (21.03)	.594 (15.09)
10	.673 (17.09)	.057 (1.45)	.344 (8.74)	.344 (8.74)	.344 (8.74)	.344 (8.74)	.591 (15.01)	.125 (3.18)	.954 (24.23)	.719 (18.26)
12	.782 (19.86)	.057 (1.45)	.344 (8.74)	.344 (8.74)	.344 (8.74)	.344 (8.74)	.751 (19.08)	.125 (3.18)	1.047 (26.59)	.812 (20.62)
14	.907 (23.04)	.057 (1.45)	.344 (8.74)	.344 (8.74)	.344 (8.74)	.344 (8.74)	.876 (22.25)	.125 (3.18)	1.141 (28.98)	.906 (23.01)
16	1.032 (26.21)	.057 (1.45)	.344 (8.74)	.344 (8.74)	.344 (8.74)	.344 (8.74)	1.001 (25.43)	.125 (3.18)	1.234 (31.24)	.969 (24.61)
18	1.157 (29.39)	.057 (1.45)	.344 (8.74)	.344 (8.74)	.344 (8.74)	.344 (8.74)	1.126 (28.60)	.125 (3.18)	1.328 (33.73)	1.062 (26.97)
20	1.251 (31.78)	.057 (1.45)	.344 (8.74)	.344 (8.74)	.344 (8.74)	.344 (8.74)	1.251 (31.78)	.125 (3.18)	1.453 (36.91)	1.156 (29.36)
22	1.376 (34.95)	.086 (2.18)	.344 (8.74)	.344 (8.74)	.344 (8.74)	.344 (8.74)	1.376 (34.95)	.125 (3.18)	1.578 (40.08)	1.250 (31.75)
24	1.501 (38.13)	.086 (2.18)	.344 (8.74)	.344 (8.74)	.344 (8.74)	.344 (8.74)	1.501 (38.13)	.152 (3.86)	1.703 (43.66)	1.375 (34.92)

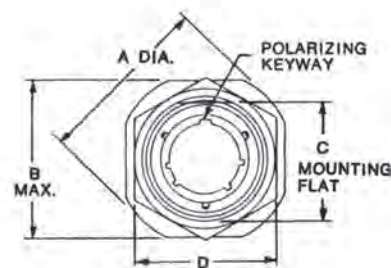
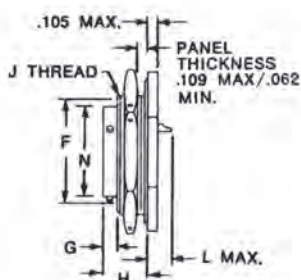
Dimensions shown in inches (mm)
Specifications and dimensions subject to change

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Jam Nut Receptacle

MS27477

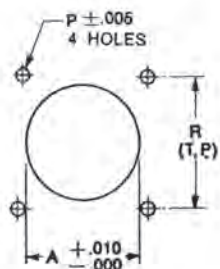
KJ7Y



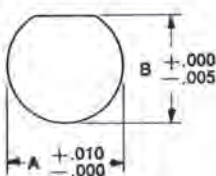
Shell Size	A Dia. Max.	B Max.	C Max.	D Max. Hex.	F Dia. Min.	G Max.	H Max.	J Thread	L — Contact Extension				N Dia. Max.
									#16 Max.	#20 Max.	#22D Max.	#22M Max.	
8	1.390 (35.31)	1.266 (32.16)	.818 (20.78)	1.079 (27.41)	.678 (17.22)	.145 (3.68)	.443 (11.25)	.875-20 UNEF-2A	.280 (7.11)	.280 (7.11)	.280 (7.11)	.280 (7.11)	.474 (12.04)
10	1.515 (38.48)	1.391 (35.33)	.942 (23.93)	1.205 (30.61)	.780 (19.81)	.145 (3.68)	.443 (11.25)	1.000-20 UNEF-2A	.280 (7.11)	.280 (7.11)	.280 (7.11)	.280 (7.11)	.591 (15.01)
12	1.640 (41.66)	1.516 (38.51)	1.066 (27.08)	1.329 (33.76)	.963 (24.46)	.145 (3.68)	.443 (11.25)	1.125-18 UNEF-2A	.280 (7.11)	.280 (7.11)	.280 (7.11)	.280 (7.11)	.751 (19.08)
14	1.765 (44.83)	1.641 (41.68)	1.191 (30.25)	1.455 (36.96)	1.088 (27.64)	.145 (3.68)	.443 (11.25)	1.250-18 UNEF-2A	.280 (7.11)	.280 (7.11)	.280 (7.11)	.280 (7.11)	.876 (22.25)
16	1.953 (49.61)	1.797 (45.64)	1.321 (33.55)	1.579 (40.11)	1.222 (31.04)	.145 (3.68)	.443 (11.25)	1.375-18 UNEF-2A	.280 (7.11)	.280 (7.11)	.280 (7.11)	.280 (7.11)	1.001 (25.43)
18	2.031 (51.59)	1.906 (48.41)	1.441 (36.60)	1.705 (43.31)	1.333 (33.86)	.145 (3.68)	.443 (11.25)	1.500-18 UNEF-2A	.280 (7.11)	.280 (7.11)	.280 (7.11)	.280 (7.11)	1.126 (28.60)
20	2.156 (54.76)	2.032 (51.61)	1.566 (39.78)	1.829 (46.46)	1.458 (37.03)	.171 (4.34)	.469 (11.91)	1.625-18 UNEF-2A	.250 (6.35)	.250 (6.35)	.250 (6.35)	.250 (6.35)	1.251 (31.78)
22	2.280 (57.91)	2.157 (54.79)	1.691 (42.95)	2.017 (51.23)	1.583 (40.21)	.171 (4.34)	.469 (11.91)	1.750-18 UNS -2A	.250 (6.35)	.250 (6.35)	.250 (6.35)	.250 (6.35)	1.376 (34.95)
24	2.405 (61.09)	2.281 (57.84)	1.816 (46.13)	2.142 (54.41)	1.708 (43.38)	.171 (4.34)	.469 (11.91)	1.875-18 UN -2A	.250 (6.35)	.250 (6.35)	.250 (6.35)	.250 (6.35)	1.501 (38.13)

Panel Cutouts

Flange Mounted Receptacle (Front Mounted)



Jam Nut Receptacles



Solder Mount Receptacles (Front Mounted)



Shell Size	A Dia.	P Dia.	R Dia.	Mtg. Screw
8	.565 (14.35)	.125 (3.18)	.594 (15.09)	#4
10	.675 (17.14)	.125 (3.18)	.719 (18.26)	#4
12	.789 (20.04)	.125 (3.18)	.812 (20.62)	#4
14	.909 (23.09)	.125 (3.18)	.906 (23.01)	#4
16	1.034 (26.26)	.125 (3.18)	.969 (24.61)	#4
18	1.159 (29.44)	.125 (3.18)	1.062 (26.97)	#4
20	1.253 (31.83)	.125 (3.18)	1.156 (29.36)	#4
22	1.378 (35.00)	.125 (3.18)	1.250 (31.75)	#4
24	1.503 (38.68)	.152 (3.86)	1.375 (34.93)	#6

Shell Size	A Dia.	B
8	.885 (17.70)	.828 (21.03)
10	1.010 (25.65)	.952 (24.18)
12	1.135 (28.83)	1.076 (27.33)
14	1.260 (32.00)	1.201 (30.51)
16	1.385 (35.18)	1.331 (33.81)
18	1.510 (38.35)	1.451 (36.86)
20	1.635 (41.53)	1.576 (40.03)
22	1.760 (44.70)	1.701 (43.21)
24	1.885 (47.88)	1.826 (46.38)

Shell Size	A Dia.
8	.568 (14.43)
10	.678 (17.22)
12	.787 (19.99)
14	.912 (23.16)
16	1.037 (26.34)
18	1.162 (29.51)
20	1.256 (31.90)
22	1.381 (35.08)
24	1.506 (38.25)

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- for nearly 90 years***

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- Tomahawk missile
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- Mark 48 torpedo
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- Delta Rocket systems
- Titan Launch Vehicle
- Apache Helicopter
- International Space Station
- Space Shuttle

Aerospace

ITT is the worldwide leader in the development of special separation connector systems required by today's high performance missile and rocket vehicles:

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- Special connectors for rocket interstage separation
- Lanyard and ring lock connectors for pylon and weapons stores jettison
- Spring loaded connectors where blind mating is required
- Connectors designed to couple and uncouple in a Zero-G space environment.

Hydrospace

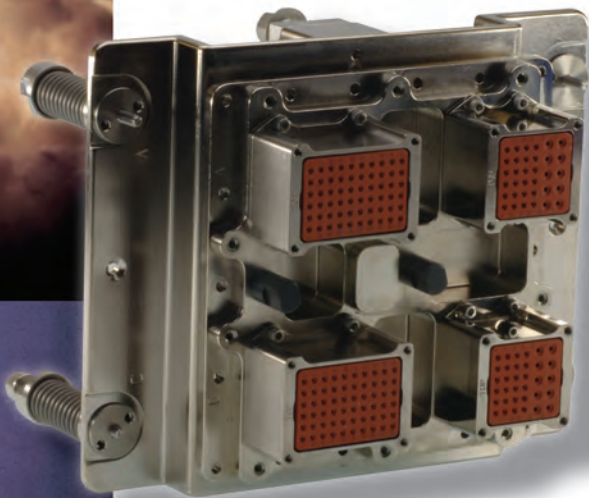
For more than 40 years, ITT has been designing special bulkhead connector headers and interconnect systems for harsh undersea applications including:

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