cannon

MKJ1 Series
Connectors Catalog

ITT

Our connector portfolio remains one of the most extensive in the industry, providing customers with a reliable and cost-effective range of interconnect solutions.

Visit **ittcannon.com** to learn more.

Table of Contents

- Overview MKJ1 Double Start Coupling ____ 4
- MKJ1 ordering guide ____ 5
- Clocking & specifications ____ 6-7
- Overview MKJ1 contact arrangements ____ 8
- MKJ1 standard contact arrangements ____ 9-11
- MKJ1 combo contact arrangements ____ 12-13
- MKJ1 Straight Plug (Banded & Accessory Thread) ____ 14-15
- MKJ1 In-Line Receptacle (Banded & Accessory Thread) ____ 16-17
- MKJ1 Box Mount Receptacle-Square Flange (Banded & Accessory Thread) ____ 18-19
- MKJ1 Jam Nut Receptacle-Rear Panel Mount (Banded & Accessory Thread) ____ 20-21
- MKJ1 Box Mount Receptacle-Square Flange PCB (PC Tail & Solder Cup) ____ 22-23
- MKJ1 Jam Nut Receptacle-Rear Panel Mount PCB (PC Tail & Solder Cup) ____ 24-25
- MKJ1 Jam Nut Receptacle - Square Flange PCB (PC Tail & Solder Cup) ____ 26-27
- MKJ1 PCB hole patterns - standard arrangements ____ 28-42
- MKJ crimp contact drawings ____ 43-44
- MKJ1 accessories ____ 45-48
- MKJ series overview ____ 49
- Cables to outfit your MKJ connector ____ 50
- Amazing things happen ____ 51
- ITT Cannon defense solutions, meet some of our most innonate connectors ____ 52
- Product safety ____ 53
- Connect with the experts ____ 54

MKJ1
Double Start Coupling

Features & Benefits

- Extreme vibration resistance with double start, threaded coupling.
- Optional dual flange mount - Jam nut receptacle for rear panel mounting.
- Contact sizes including 23, 20HD, 16, 12 and 8.
- MKJ1 comes in 11 shell sizes with 40 standard contact arrangements.
- Prevent miss-mating with 64 clocking positions.
- Full range of plating options including RoHS compliant plating.
- Ideal for direct attachment of cable shield or over-molding.
- Flexible design with In-Line, Box Mount, Straight, and Jam Nut shell styles.

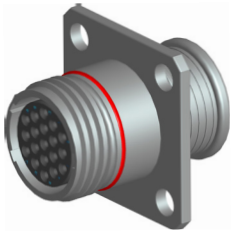
Suitable for extreme environments, Cannon's MKJ1 offers a robust double start threaded coupling and features high-density configurations using machined crimp and PCB contacts. MKJ1 is available in a variety of styles including a vibration resistant, dual flange mount layout for secure, secondary PCB mounting. MKJ1 compact design makes it the perfect choice when standard military-grade connectors are too bulky or heavy. MKJ1 is designed to provide the optimum combination of performance and reliability, in lightweight, space-saving design.

Straight Plug - Banded Standard or Ratching

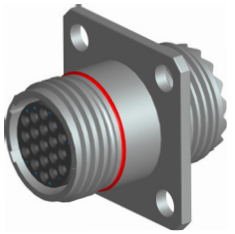
Straight Plug - Threaded Standard or Ratching

In-Line Receptacle Banded

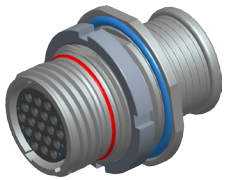
In-Line Receptacle Accessory Thread



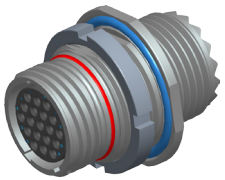
Box Mount Receptacle Square Flange - Banded



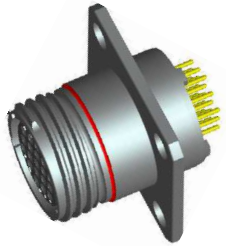
Box Mount Receptacle Square Flange Accessory Thread



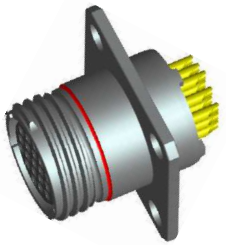
Jam Nut Receptacle Rear Panel Mount Banded



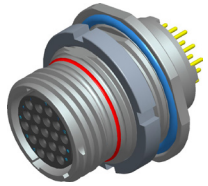
Jam Nut Receptacle Rear Panel Mount Accessory Thread



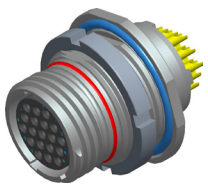
Box Mount Receptacle Square Flange PCB PC Tail



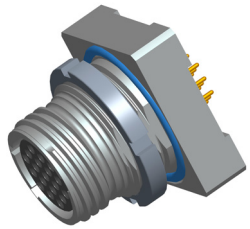
Box Mount Receptacle Square Flange PCB Solder Cup



Jam Nut Receptacle Rear Panel Mount PCB PC Tail



Jam Nut Receptacle Rear Panel Mount PCB Solder Cup



Jam Nut Receptacle Square Flange PCB

MKJ1 - Ordering Guide

Part Number Configurator

1- Series	2- Coupling	3- Class	4- Shell Style	5- Plating	6- Arrangement	7- Contact Style	8- Clocking	9- MOD Codes
MKJ	1	A	6	F	9-19	P	A	-F0

1- Product	
MKJ	MKJ Series
2- Coupling	
1	Threaded Coupling, Double Start ACME Thread
3- Class	
A	Environmental with Banding/Overmolding Attachment
B	Environmental with Threaded Accessory Attachment
C	Back-Potted Plug/Receptacle-PC/Flex/Solder
4- Shell Style	
1	In-Line Receptacle
2	Box Mount Receptacle - Square Flange
6	Straight Plug
26	Straight Plug w/ Self-Ratchet Coupling Nut
7	Jam Nut Receptacle-Rear Panel Mount
75	Jam Nut Receptacle-Square Flange PCB
5- Plating	
C	Aluminum / Anodized, Black
F	Aluminum/Electroless Nickel
K	Stainless Steel / Passivated
N	Stainless Steel/Electroless Nickel
T	Aluminum/Teflon Nickel
W	Aluminum/Olive Drab Cadmium over Electroless Nickel
Y	Stainless Steel / Electroless Nickel, Black
Z	Aluminum/Zinc Nickel, Black

6- Standard Arrangements (For Combo, please reference pages 12-13)			
5-3	3 Size 23 Contacts	6-1	1 Size 16 Contact
6-4	4 Size 23 Contacts	8-2	2 Size 16 Contacts
6-6	6 Size 23 Contacts	9-4	4 Size 16 Contacts
6-7	7 Size 23 Contacts	10-5	5 Size 16 Contacts
7-10	10 Size 23 Contacts	13-7	7 Size 16 Contacts
8-13	13 Size 23 Contacts	16-12	12 Size 16 Contacts
9-19	19 Size 23 Contacts	17-14	14 Size 16 Contacts
10-26	26 Size 23 Contacts	19-19	19 Size 16 Contacts
11-31	31 Size 23 Contacts	21-22	22 Size 16 Contacts
13-37	37 Size 23 Contacts	7-1	1 Size 12 Contact
16-55	55 Size 23 Contacts	10-2	2 Size 12 Contacts
17-85	85 Size 23 Contacts	13-2	2 Size 12 Contact
19-100	100 Size 23 Contacts	13-3	3 Size 12 Contact
21-130	130 Size 23 Contacts	16-4	4 Size 12 Contact
6-23	3 Size 20HD Contacts	16-5	5 Size 12 Contact
7-25	5 Size 20HD Contacts	17-7	7 Size 12 Contact
8-28	8 Size 20HD Contacts	21-12	12 Size 12 Contact
9-210	10 Size 20HD Contacts		
13-220	20 Size 20HD Contacts		
16-235	35 Size 20HD Contacts		
17-241	41 Size 20HD Contacts		
19-255	55 Size 20HD Contacts		
21-269	69 Size 20HD Contacts		

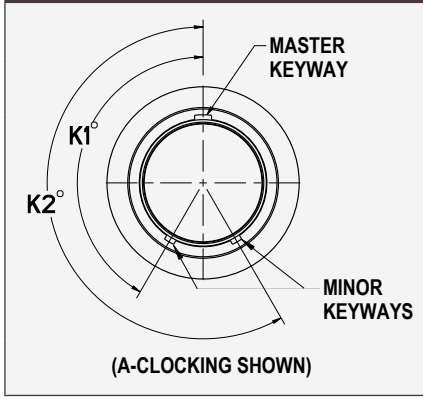
7- Contact Style	
P	Pin, Crimp, Removable (Class A & B)
S	Socket, Crimp, Removable (Class A & B)
A	Pin, PC-Tail, .062 Extension (Class C)
B	Pin, PC-Tail, .109 Extension (Class C)
G	Pin, PC-Tail, .125 Extension (Class C)
C	Socket, PC Tail, .062 Extension (Class C)
D	Socket, PC Tail, .109 Extension (Class C)
H	Socket, PC Tail, .125 Extension (Class C)
E	Pin, Solder Cup (Class A through C)
F	Socket, Solder Cup (Class A through C)

8- Clocking		
Position	K1°	K2°
A (Normal)	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°
E	75°	275°
F	95°	210°

9- Modification Codes	
-F0	Less Contacts ("F0" not stamped on connector, but must be included on the P.O.)
-518	Class "C" PC style black potted connectors w/water immersion testing

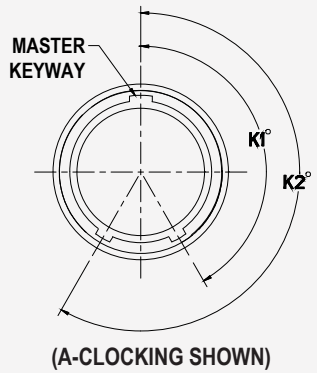
Clocking

Plug Shell Clocking Dimensions



Position	K1°	K2°
A (Normal)	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°
E	75°	275°
F	95°	210°

Receptacle Shell Clocking Dimensions



Position	K1°	K2°
A (Normal)	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°
E	75°	275°
F	95°	210°

For all shell sizes and clockings, the master keyway remains stationary at top center, with minor keys rotating to achieve alternate clocking positions.

Specifications

Enviromental Specifications

Humidity	Operational from 0-100% humidity
Salt Spray	Connector shall have no exposure of base metal when subjected to salt spray C - Aluminum/anodized, black >1000 hours F - Aluminum/electroless nickel 48 hours K - Stainless steel/passivated >1000 hours N - Stainless steel/electroless nickel 500 hours T - Aluminum/teflon nickel 500 hours W - Aluminum/olive drab cadmium 500 hours Y - Stainless steel/electroless nickel, black 500 hours Z - Aluminum/zinc nickel, black 500 hours ZN - Aluminum/zinc nickel, green (not RoHS) 500 hours MB - Marine Bronze >1000 hours

Salt Atmosphere	Connector shall operate in and when stored in a salt fog atmosphere without protective covers for 48 hrs
Rain & Water	The connectors shall remain functional during driving rain
Sand & Dust	The connector shall not suffer greater than cosmetic deterioration due to blowing sand and dust
Water Immersion, Mated Condition	1 meter for 1 hour
Fluid Immersion	Unmated connectors immersed in various fuels and oils shall have no damage detrimental to the operation of the connector components
Fungus	Fungus Inert

Specifications

Specifications		
Contact Type	Rear Crimp, Solder Cup, PCB Mount	
Contact Spacing	Size 12: 0.230" Spacing Size 16: 0.170" Spacing	Size 20HD: 0.106" Spacing Size 23: 0.076" Spacing
Wire Accommodation	Size 12: #12 - #14 AWG Size 16: #16 - #20 AWG	Size 20HD: #20 - #24 AWG Size 23: #22 - #28 AWG
Contact Rating	Size 12: 23 Amps Size 16: 13 Amps	Size 20HD: 7.5 Amps Size 23: 5 Amps
DWV Voltage (VAC) @ Sea Level	Size 12: 1800 VAC Size 16: 1800 VAC	Size 20HD: 1000 VAC Size 23: 5750 VAC
Insulation Resistance	>5000 Megohms @ 500 VDC	
Operating Temperature	-65°C to +175°C	
Contact Resistance	8 mΩ Maximum	
Shock/Vibration	37 g's Random Vibration; 300 g's Shock	
Altitude	Operational at sea level to 32,000 ft	
Receptacle Mounting	In-Line, flange, jam nut	
Durability	2000 mating cycles	
Contact Retention (Minimum Force)	Size 12: 25 lbs / 111 N Size 16: 25 lbs / 111 N	Size 20HD: 15 lbs / 67 N Size 23: 6 lbs / 27 N

EMI Shielding Effectiveness, low frequency (100 MHz - 1000 MHz	Requirement		Procedure
	Frequency	Min. dB Attenuation	MIL-DTL-38999 paragraph 4.5.28.1 Electroless nickel plated connectors
	100 MHz	75	
	200 MHz	70	
	300 MHz	65	
	400 MHz	63	
	800 MHz	58	
	1000 MHz	55	

Max Voltage Drop	Less than 85 mV with contacts in the mated position and an applied load at 16VDC
Shell-to-shell conductivity, after conditioning (48 hours salt spray)	<0.02 Ohms Note: measured on nickel plated connectors
Coupling	Double Start Threaded Coupling

Recommended Torque Values	Shell Size	Coupling Torque In-lbs	
		Min.	Max.
	5	16	20
	6	18	22
	7	20	24
	8	22	26
	9	24	28
	10 & 11	26	30
	12 & 13	32	36
	14 & 16	38	42
	15 & 17	40	44
	19 & 21	48	52

Materials	
	Shell, barrel, jam nut, coupling nut - Aluminum or stainless steel
	Insulators - Thermoplastic
	Grommet, peripheral seal, interfacial seal - Fluorosilicone
	Contacts - Copper Alloy with Gold over Nickel Plating

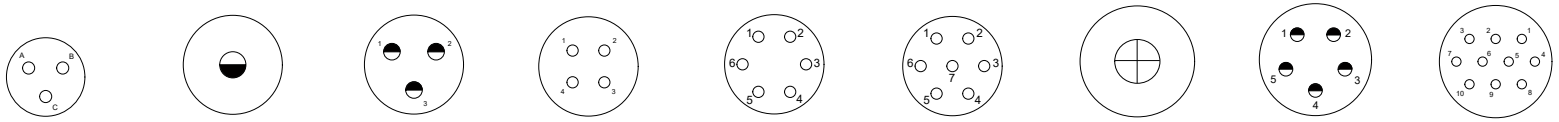
MKJ1 Contact Arrangements

	Insert Arrange-ments	Contacts					
		#23	#20	#20HD	#16	#12	#8
Size #23 Contacts 5 Amp Max. Current #22-#28 AWG 750 VAC DWV	5-3	3					
	6-4	4					
	6-6	6					
	6-7	7					
	7-10	10					
	8-13	13					
	9-19	19					
	10-26	26					
	11-31	31					
	13-37	37					
	16-55	55					
	17-85	85					
	19-100	100					
	21-130	130					
Size #20HD Contacts 7.5 Amp Max. Current #20-#24 AWG 1000 VAC DWV	6-23			3			
	7-25			5			
	8-28			8			
	9-210			10			
	13-220			20			
	16-235			35			
	17-241			41			
	19-255			55			
	21-269			69			
Size #16 Contacts 13 Amp Max. Current #16-#20 AWG 1800 VAC DWV	6-1				1		
	8-2				2		
	9-4				4		
	10-5				5		
	13-7				7		
	16-12				12		
	17-14				14		
	19-19				19		
	21-22				22		

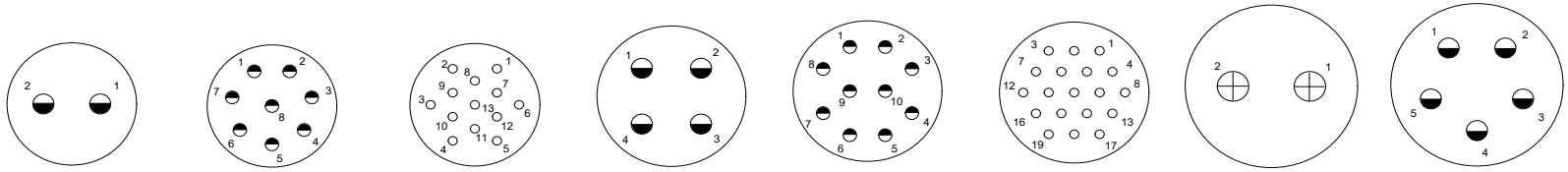
	Insert Arrange-ments	Contacts					
		#23	#20	#20HD	#16	#12	#8
Size #12 Contacts 23 Amp Max. Current #12- #14 AWG 1800 VAC DWV	7-1					1	
	10-2					2	
	13-2					2	
	13-3					3	
	16-4					4	
	16-5					5	
	17-7					7	
	21-12					12	
Combo* Arrangements Using Size #23 Contacts 5 Amp Max. Current #22 - #28 AWG 750 VAC DWV	10-200	12				1	
	10-201	4				2	
	13-200	6				2	
	13-201	10				2	
	9-200	4			2		
	10-202	8			2		
	8-200	4	2				
	9-201	8	2				
Combo* Arrangements Using Size #23 Contacts 5 Amp Max. Current #22 - #28 AWG 1300 VAC DWV	13-202	20			2		
	13-203	12			4		
	16-204	40			2		
	16-205	32			4		
	17-203	40			4		
	17-206	58			4		
	13-204	12				2	
	13-205	4				4	
	16-206	34				2	
	16-207	20				4	
	17-204	28				4	
	11-201	18					1
	16-208	32					1
	17-205	40					1
	19-201	44					2
	19-202	12					4
	21-200	28					4

MKJ1 Standard Contact Arrangements

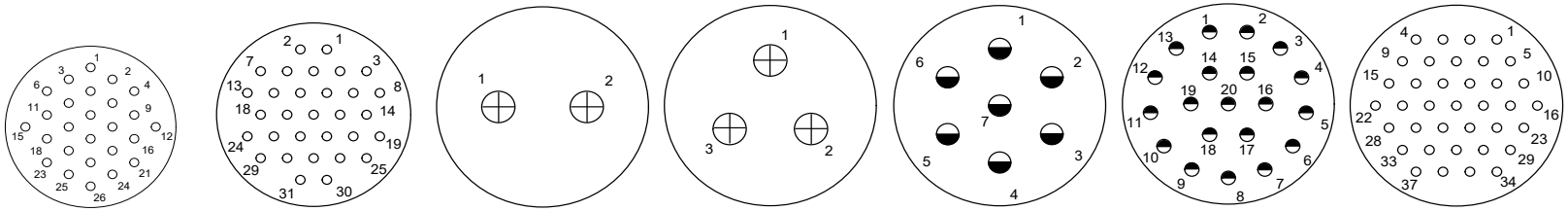
Contact Legend



MKJ1	5-3	6-1	6-23	6-4	6-6	6-7	7-1	7-25	7-10
Contact QTY	3	1	3	4	6	7	1	5	10
Contact Size	23	16	20HD	23	23	23	12	20HD	23
Voltage (VAC)	750	1800	1000	750	750	750	1800	1000	750
Current (Amps)	5	13	7.5	5	5	5	23	7.5	5



MKJ1	8-2	8-28	8-13	9-4	9-210	9-19	10-2	10-5
Contact QTY	2	8	13	4	10	19	2	5
Contact Size	16	20HD	23	16	20HD	23	12	16
Voltage (VAC)	1800	1000	750	1800	1000	750	1800	1800
Current (Amps)	13	7.5	5	13	7.5	5	23	13



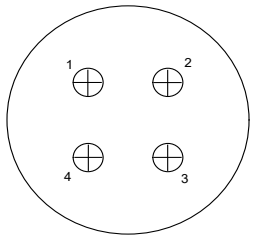
MKJ1	10-26	11-31	13-2	13-3	13-7	13-220	13-37
Contact QTY	26	31	2	3	7	20	37
Contact Size	23	23	12	12	16	20HD	23
Voltage (VAC)	750	750	1800	1800	1800	1000	750
Current (Amps)	5	5	23	23	13	7.5	5

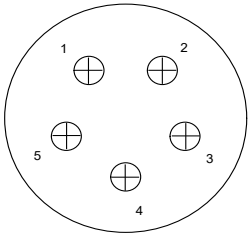
*N/A for MKJ0 and MKJ3

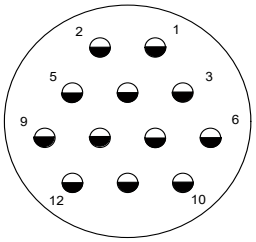
Dimensions shown in inches and (mm). Specifications and dimensions subject to change.

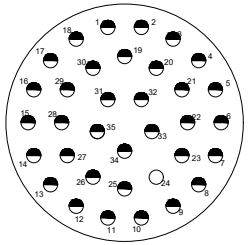
MKJ1 Standard Contact Arrangements

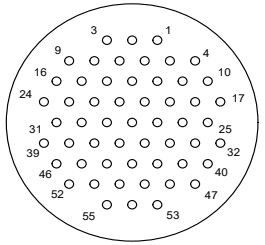
Contact Legend



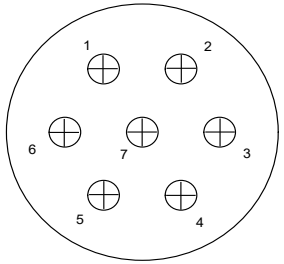


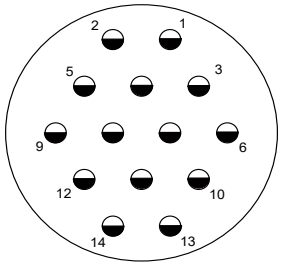


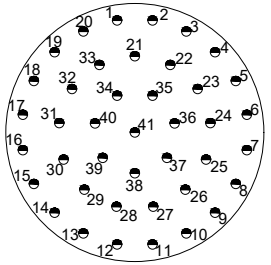


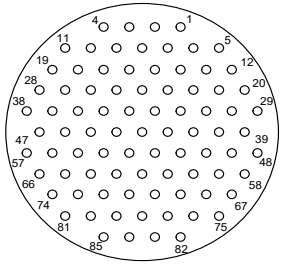


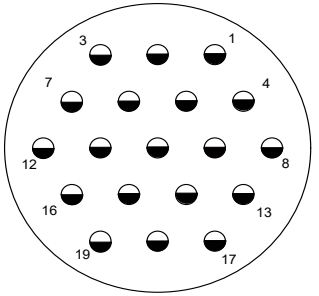
MKJ1	16-4	16-5	16-12	16-235	16-55
Contact QTY	4	5	12	35	55
Contact Size	12	12	16	20HD	23
Voltage (VAC)	1800	1800	1800	750	750
Current (Amps)	23	23	13	7.5	5







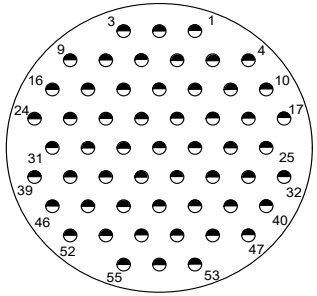


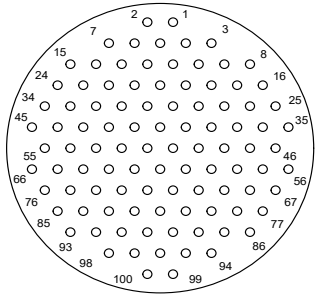


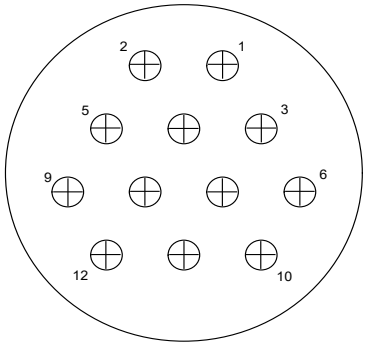
MKJ1	17-7	17-14	17-241	17-85	19-19
Contact QTY	7	14	41	85	19
Contact Size	12	16	20HD	23	16
Voltage (VAC)	1800	1800	1000	750	1800
Current (Amps)	23	13	7.5	5	13

MKJ1 Standard Contact Arrangements

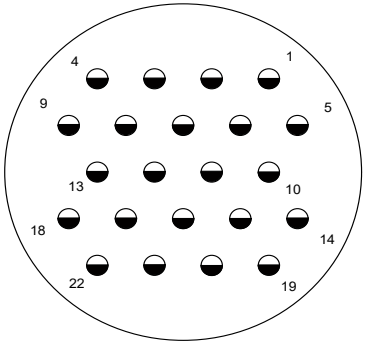
Contact Legend

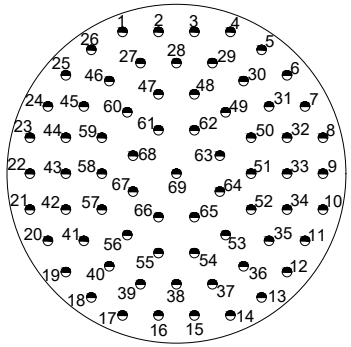


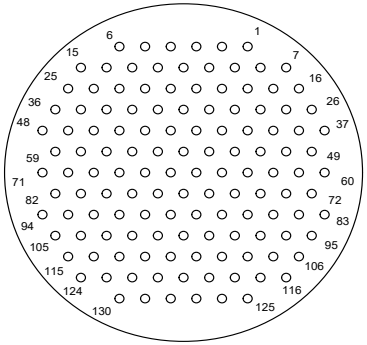




MKJ1	19-255	19-100	21-12
Contact QTY	55	100	12
Contact Size	20HD	23	12
Voltage (VAC)	1000	750	1800
Current (Amps)	7.5	5	23



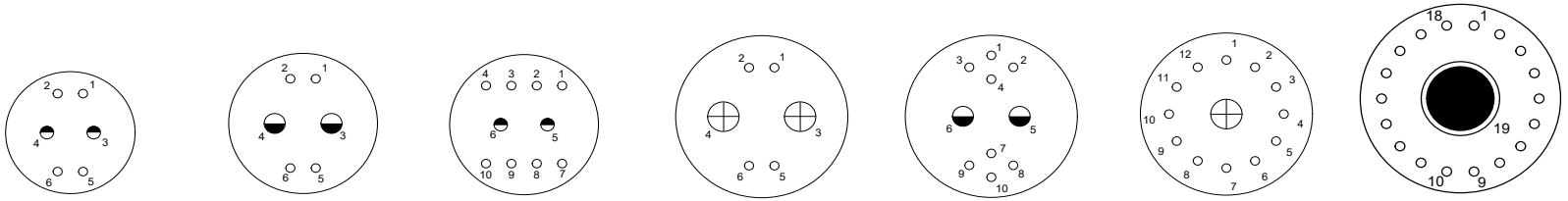




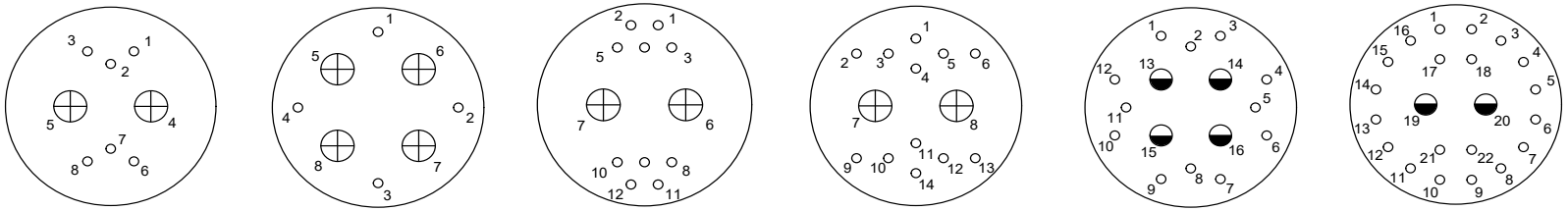
MKJ1	21-22	21-269	21-130
Contact QTY	22	69	130
Contact Size	16	20HD	23
Voltage (VAC)	1800	1000	750
Current (Amps)	13	5	7.5

MKJ1 Combo Contact Arrangements

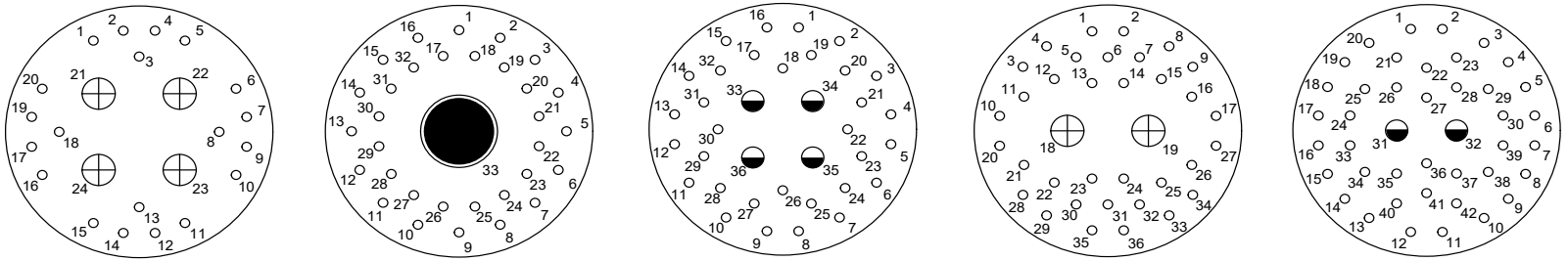
Contact Legend



MKJ1	8-200	9-200	9-201	10-201	10-202	10-200	11-201
Contact QTY	6	6	10	6	10	13	19
Contact Size	4 #23 / 2 #20HD	4 #23 / 2 #16	8 #23 / 2 #20HD	4 #23 / 2 #12	8 #23 / 2 #16	12 #23 / 1 #12	18 #23 / 1 #8
Voltage (VAC)	750 VAC DWV	750	750	750	750	750	1300
Current (Amps)	5	5	5	5	5	5	5



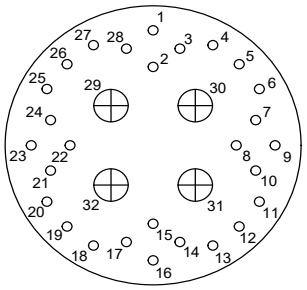
MKJ1	13-200	13-205	13-201	13-204	13-203	13-202
Contact QTY	8	8	12	14	16	22
Contact Size	6 #23 / 2 #12	4 #23 / 4 #12	10#23 / 2 #12	12#23 / 2 #12	12 #23 / 4 #16	20 #23 / 2 #16
Voltage (VAC)	750	1300	750	1300	1300	1300
Current (Amps)	5	5	5	5	5	5

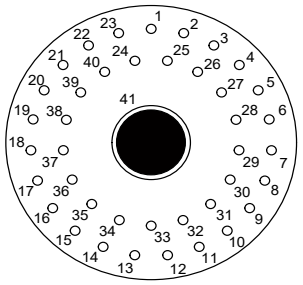


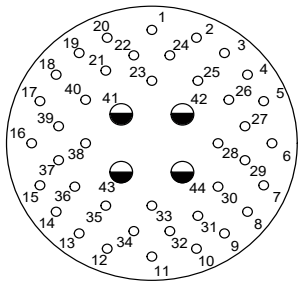
MKJ1	16-207	16-208	16-205	16-206	16-204
Contact QTY	24	33	36	36	42
Contact Size	20 #23 / 4 #12	32 #23 / 1 #8	32 #23 / 4 #16	34 #23 / 2 #12	40 #23 / 2 #16
Voltage (VAC)	1300	1300	1300	1300	1300
Current (Amps)	5	5	5	5	5

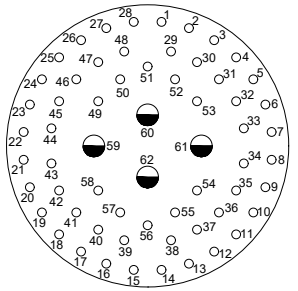
MKJ1 Combo Contact Arrangements

Contact Legend

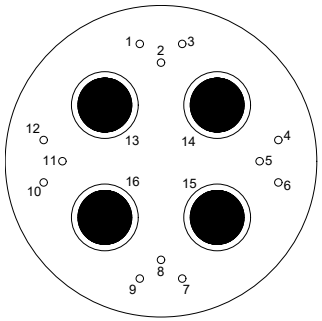


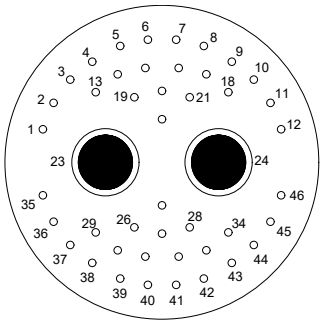


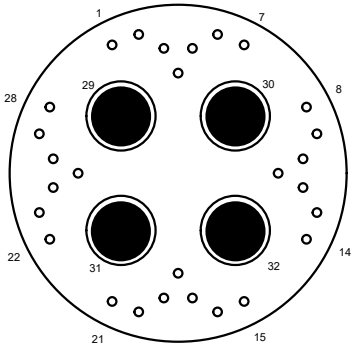




MKJ1	17-204	17-205	17-203	17-206
Contact QTY	32	41	44	62
Contact Size	28 #23 / 4 #12	40 #23 / 1 #8	40 #23 / 4 #16	58 #23 / 4 #16
Voltage (VAC)	1300	1300	1300	1300
Current (Amps)	5	5	5	5







MKJ1	19-202	19-201	21-200
Contact QTY	16	46	32
Contact Size	12 #23 / 4 #8	44 #23 / 2 #8	28 #23 / 4 #8
Voltage (VAC)	1300	1300	1300
Current (Amps)	5	5	5

For Combo PCB Hole Patterns, please consult the factory.

MKJ1 Straight Plug

Part Number Configurator

1- Series	2- Coupling	3- Class	4- Shell Style	5- Plating	6- Arrangement	7- Contact Style	8- Clocking	9- MOD Codes
MKJ	1	A	6	F	9-19	P	A	-F0

1- Product	
MKJ	MKJ Series
2- Coupling	
1	Threaded Coupling, Double Start ACME Thread
3- Class	
A	Environmental with Banding/Overmolding Attachment
B	Environmental with Threaded Accessory Attachment
4- Shell Style	
6	Straight Plug
26	Straight Plug w/ Self-Ratchet Coupling Nut
5- Plating	
C	Aluminum / Anodized, Black
F	Aluminum/Electroless Nickel
K	Stainless Steel / Passivated
N	Stainless Steel/Electroless Nickel
T	Aluminum/Teflon Nickel
W	Aluminum/Olive Drab Cadmium over Electroless Nickel
Y	Stainless Steel / Electroless Nickel, Black
Z	Aluminum/Zinc Nickel, Black

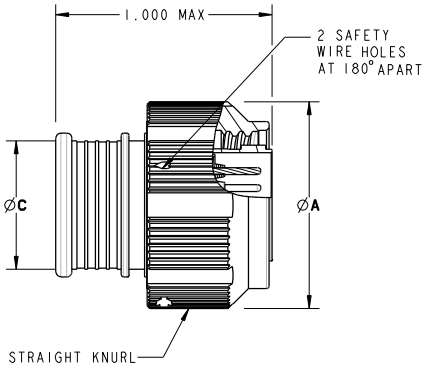
6- Standard Arrangements (For Combo, please reference pages 12-13)			
5-3	3 Size 23 Contacts	6-1	1 Size 16 Contact
6-4	4 Size 23 Contacts	8-2	2 Size 16 Contacts
6-6	6 Size 23 Contacts	9-4	4 Size 16 Contacts
6-7	7 Size 23 Contacts	10-5	5 Size 16 Contacts
7-10	10 Size 23 Contacts	13-7	7 Size 16 Contacts
8-13	13 Size 23 Contacts	16-12	12 Size 16 Contacts
9-19	19 Size 23 Contacts	17-14	14 Size 16 Contacts
10-26	26 Size 23 Contacts	19-19	19 Size 16 Contacts
11-31	31 Size 23 Contacts	21-22	22 Size 16 Contacts
13-37	37 Size 23 Contacts	7-1	1 Size 12 Contact
16-55	55 Size 23 Contacts	10-2	2 Size 12 Contacts
17-85	85 Size 23 Contacts	13-2	2 Size 12 Contact
19-100	100 Size 23 Contacts	13-3	3 Size 12 Contact
21-130	130 Size 23 Contacts	16-4	4 Size 12 Contact
6-23	3 Size 20HD Contacts	16-5	5 Size 12 Contact
7-25	5 Size 20HD Contacts	17-7	7 Size 12 Contact
8-28	8 Size 20HD Contacts	21-12	12 Size 12 Contact
9-210	10 Size 20HD Contacts		
13-220	20 Size 20HD Contacts		
16-235	35 Size 20HD Contacts		
17-241	41 Size 20HD Contacts		
19-255	55 Size 20HD Contacts		
21-269	69 Size 20HD Contacts		

7- Contact Style	
P	Pin, Crimp, Removable
S	Socket, Crimp, Removable
E	Pin, Solder Cup
F	Socket, Solder Cup

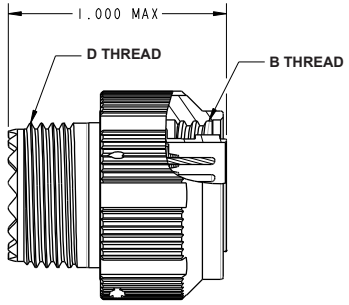
8- Clocking		
Position	K1°	K2°
A (Normal)	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°
E	75°	275°
F	95°	210°

9- Modification Codes	
-F0	Less Contacts ("F0" not stamped on connector, but must be included on the P.O.)

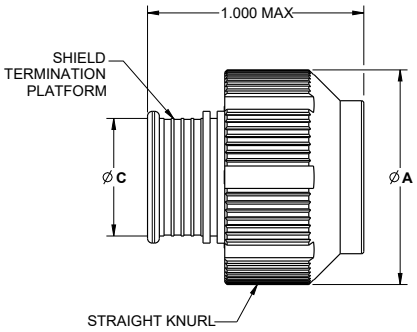
MKJ1 Straight Plug - Banded or Accessory Thread



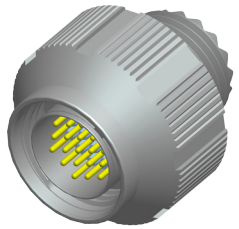
MKJ1 Plug with Banding Overmolding Attachment (Style 6)

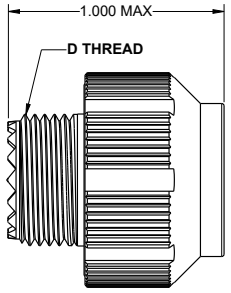


MKJ1 Plug with Threaded Accessory Attachment (Style 6)



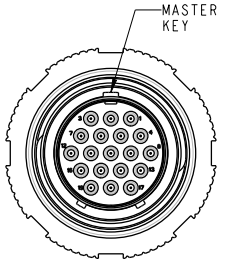
MKJ1 Plug with Banding Overmolding Ratching (Style 26)





MKJ1 Plug with Threaded Accessory Attachment Ratching (Style 26)

MKJ1 Straight Plug Dimensions					
SHELL SIZE	ØA		B THREAD	ØC	D THREAD UNEF-2A
	Style 6	Style 26			
5	0.540	NA	.3125-.05P-.1L-2B	0.245	.2500-32
6	0.600	0.691	.3750-.05P-.1L-2B	0.290	.3125-32
7	0.680	0.787	.4375-.05P-.1L-2B	0.390	.4375-28
8	0.750	0.826	.5000-.05P-.1l-2B	0.445	.5000-28
9	0.810	0.916	.5625-.05P-.1L-2B	0.500	.5625-24
10	0.876	0.982	.6250-.05P-.1L-2B	0.562	.6250-24
13	1.050	1.049	.8125-.1P-.2L-2B	0.650	.6875-24
16	1.240	1.274	1.0000-.1P-.2L-2B	0.805	.9375-20
17	1.300	1.290	1.0625-.1P-.2L-2B	0.850	.9375-20
19	1.400	Consult Factory	1.1875-.1P-.2L-2B	1.003	1.0625-18
21	1.550	Consult Factory	1.3125-.1P-.2L-2B	1.110	1.1875-18



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

MKJ1 In-Line Receptacle

Part Number Configurator

1- Series	2- Coupling	3- Class	4- Shell Style	5- Plating	6- Arrangement	7- Contact Style	8- Clocking	9- MOD Codes
MKJ	1	A	1	F	9-19	P	A	-F0

1- Product	
MKJ	MKJ Series
2- Coupling	
1	Threaded Coupling, Double Start ACME Thread
3- Class	
A	Environmental with Banding/Overmolding Attachment
B	Environmental with Threaded Accessory Attachment
4- Shell Style	
1	In-Line Receptacle
5- Plating	
C	Aluminum / Anodized, Black
F	Aluminum/Electroless Nickel
K	Stainless Steel / Passivated
N	Stainless Steel/Electroless Nickel
T	Aluminum/Teflon Nickel
W	Aluminum/Olive Drab Cadmium over Electroless Nickel
Y	Stainless Steel / Electroless Nickel, Black
Z	Aluminum/Zinc Nickel, Black

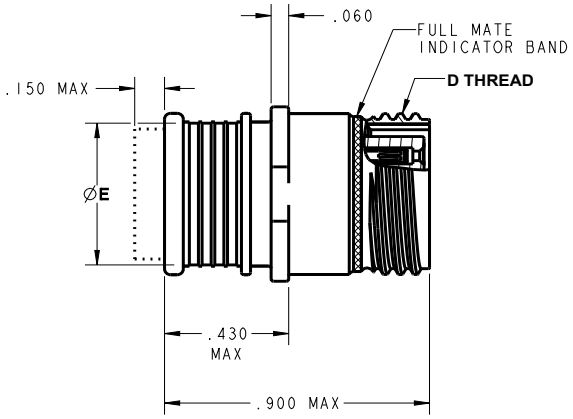
6- Standard Arrangements (For Combo, please reference pages 12-13)			
5-3	3 Size 23 Contacts	6-1	1 Size 16 Contact
6-4	4 Size 23 Contacts	8-2	2 Size 16 Contacts
6-6	6 Size 23 Contacts	9-4	4 Size 16 Contacts
6-7	7 Size 23 Contacts	10-5	5 Size 16 Contacts
7-10	10 Size 23 Contacts	13-7	7 Size 16 Contacts
8-13	13 Size 23 Contacts	16-12	12 Size 16 Contacts
9-19	19 Size 23 Contacts	17-14	14 Size 16 Contacts
10-26	26 Size 23 Contacts	19-19	19 Size 16 Contacts
11-31	31 Size 23 Contacts	21-22	22 Size 16 Contacts
13-37	37 Size 23 Contacts	7-1	1 Size 12 Contact
16-55	55 Size 23 Contacts	10-2	2 Size 12 Contacts
17-85	85 Size 23 Contacts	13-2	2 Size 12 Contact
19-100	100 Size 23 Contacts	13-3	3 Size 12 Contact
21-130	130 Size 23 Contacts	16-4	4 Size 12 Contact
6-23	3 Size 20HD Contacts	16-5	5 Size 12 Contact
7-25	5 Size 20HD Contacts	17-7	7 Size 12 Contact
8-28	8 Size 20HD Contacts	21-12	12 Size 12 Contact
9-210	10 Size 20HD Contacts		
13-220	20 Size 20HD Contacts		
16-235	35 Size 20HD Contacts		
17-241	41 Size 20HD Contacts		
19-255	55 Size 20HD Contacts		
21-269	69 Size 20HD Contacts		

7- Contact Style	
P	Pin, Crimp, Removable
S	Socket, Crimp, Removable
E	Pin, Solder Cup
F	Socket, Solder Cup

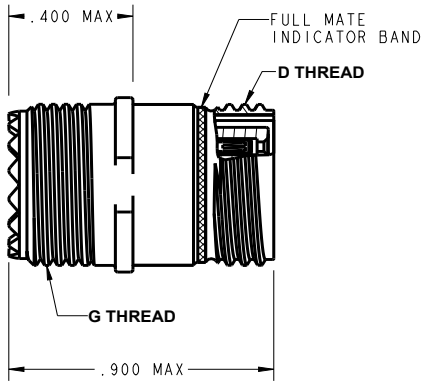
8- Clocking		
Position	K1°	K2°
A (Normal)	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°
E	75°	275°
F	95°	210°

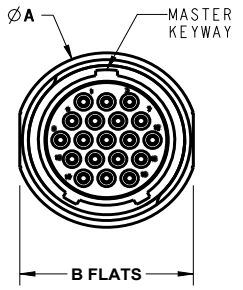
9- Modification Codes	
-F0	Less Contacts ("F0" not stamped on connector, but must be included on the P.O.)

MKJ1 In-Line Receptacle - Banded or Accessory Thread



MKJ1 In-Line Receptacle - Banding/Overmolding Attachment





MKJ1 In-Line Receptacle - Threaded Accessory Attachment

MKJ1 In-Line Receptacle Dimensions					
SHELL SIZE	ØA	B, FLATS	D, THD DBL START	ØE	G, THD UNEF-2A (ACCESSORY)
5	0.355	0.325	.3125-.05P-.1L-2A	0.245	.2500-32
6	0.415	0.385	.3750-.05P-.1L-2A	0.290	.3125-32
7	0.480	0.445	.4375-.05P-.1L-2A	0.390	.4375-28
8	0.540	0.510	.5000-.05P-.1l-2A	0.445	.5000-28
9	0.605	0.575	.5625-.05P-.1L-2A	0.500	.5625-24
10	0.665	0.635	.6250-.05P-.1L-2A	0.560	.6250-24
13	0.855	0.825	.8125-.1P-.2L-2A	0.650	.6875-24
16	1.040	1.010	1.0000-.1P-.2L-2A	0.805	.9375-20
17	1.110	1.070	1.0625-.1P-.2L-2A	0.850	.9375-20
19	1.243	1.191	1.1875-.1P-.2L-2A	1.003	1.0625-18
21	1.375	1.312	1.3125-.1P-.2L-2A	1.110	1.1875-18

MKJ1 Box Mount Receptacle - Square Flange

Part Number Configurator

1- Series	2- Coupling	3- Class	4- Shell Style	5- Plating	6- Arrangement	7- Contact Style	8- Clocking	9- MOD Codes
MKJ	1	A	2	F	9-19	S	A	-F0

1- Product	
MKJ	MKJ Series
2- Coupling	
1	Threaded Coupling, Double Start ACME Thread
3- Class	
A	Environmental with Banding/Overmolding Attachment
B	Environmental with Threaded Accessory Attachment
4- Shell Style	
2	Box Mount Receptacle-Square Flange
5- Plating	
C	Aluminum / Anodized, Black
F	Aluminum/Electroless Nickel
K	Stainless Steel / Passivated
N	Stainless Steel/Electroless Nickel
T	Aluminum/Teflon Nickel
W	Aluminum/Olive Drab Cadmium over Electroless Nickel
Y	Stainless Steel / Electroless Nickel, Black
Z	Aluminum/Zinc Nickel, Black

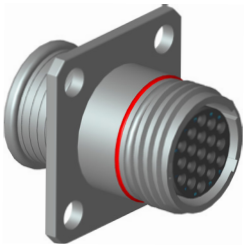
6- Standard Arrangements (For Combo, please reference pages 12-13)			
5-3	3 Size 23 Contacts	6-1	1 Size 16 Contact
6-4	4 Size 23 Contacts	8-2	2 Size 16 Contacts
6-6	6 Size 23 Contacts	9-4	4 Size 16 Contacts
6-7	7 Size 23 Contacts	10-5	5 Size 16 Contacts
7-10	10 Size 23 Contacts	13-7	7 Size 16 Contacts
8-13	13 Size 23 Contacts	16-12	12 Size 16 Contacts
9-19	19 Size 23 Contacts	17-14	14 Size 16 Contacts
10-26	26 Size 23 Contacts	19-19	19 Size 16 Contacts
11-31	31 Size 23 Contacts	21-22	22 Size 16 Contacts
13-37	37 Size 23 Contacts	7-1	1 Size 12 Contact
16-55	55 Size 23 Contacts	10-2	2 Size 12 Contacts
17-85	85 Size 23 Contacts	13-2	2 Size 12 Contact
19-100	100 Size 23 Contacts	13-3	3 Size 12 Contact
21-130	130 Size 23 Contacts	16-4	4 Size 12 Contact
6-23	3 Size 20HD Contacts	16-5	5 Size 12 Contact
7-25	5 Size 20HD Contacts	17-7	7 Size 12 Contact
8-28	8 Size 20HD Contacts	21-12	12 Size 12 Contact
9-210	10 Size 20HD Contacts		
13-220	20 Size 20HD Contacts		
16-235	35 Size 20HD Contacts		
17-241	41 Size 20HD Contacts		
19-255	55 Size 20HD Contacts		
21-269	69 Size 20HD Contacts		

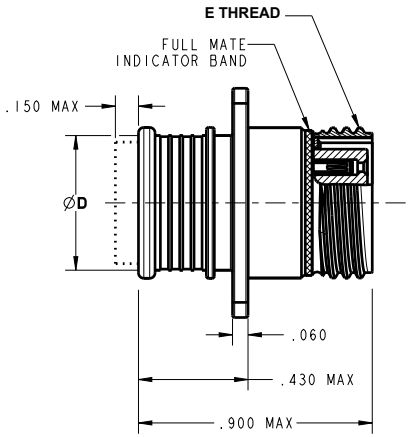
7- Contact Style	
P	Pin, Crimp, Removable
S	Socket, Crimp, Removable
E	Pin, Solder Cup
F	Socket, Solder Cup

8- Clocking		
Position	K1°	K2°
A (Normal)	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°
E	75°	275°
F	95°	210°

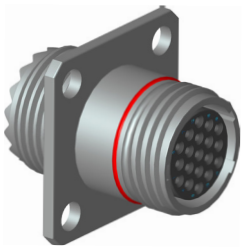
9- Modification Codes	
-F0	Less Contacts ("F0" not stamped on connector, but must be included on the P.O.)

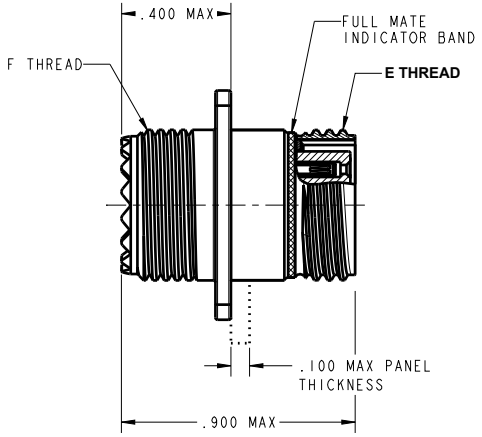
MKJ1 Box Mount Receptacle - Square Flange



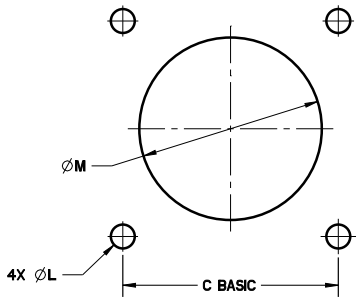


MKJ1 Box Mount Receptacle - Square Flange
Banding/Overmolding Attachment

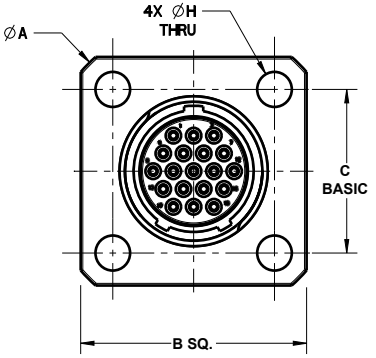




MKJ1 Box Mount Receptacle - Square Flange
Threaded Accessory Attachment



PANEL CUTOUT



MKJ1 Box Mount Receptacle - Square Flange Dimensions									
SHELL SIZE	ØA	B, SQ.	C, BSC	ØD	E, THREAD DBL START	ØH	F, THD UNEF-2A (ACCESSORY)	ØL	ØM
5	0.680	0.530	0.363	0.245	.3125-.05P-.1L-2A	.096 / .090	.2500-32	.096 / .090	0.328
6	0.750	0.590	0.423	0.290	.3750-.05P-.1L-2A		.3125-32		0.390
7	0.850	0.650	0.483	0.390	.4375-.05P-.1L-2A		.4375-28		0.453
8	0.938	0.712	0.545	0.445	.5000-.05P-.1l-2A		.5000-28		0.515
9	1.125	0.850	0.607	0.500	.5625-.05P-.1L-2A	.131 / .125	.5625-24	.131 / .125	0.578
10	1.188	0.890	0.670	0.560	.6250-.05P-.1L-2A		.6250-24		0.640
13	1.375	1.030	0.812	0.650	.8125-.1P-.2L-2A		.6875-24		0.828
16	1.625	1.219	0.981	0.805	1.0000-.1P-.2L-2A		.9375-20		1.015
17	1.700	1.280	1.060	0.850	1.0625-.1P-.2L-2A		.9375-20		1.078
19	1.900	1.432	1.191	1.003	1.1875-.1P-.2L-2A		1.0625-18		1.203
21	2.100	1.565	1.322	1.110	1.3125-.1P-.2L-2A		1.1875-18		1.328

MKJ1 Jam Nut Receptacle - Rear Panel Mount

Part Number Configurator

1- Series	2- Coupling	3- Class	4- Shell Style	5- Plating	6- Arrangement	7- Contact Style	8- Clocking	9- MOD Codes
MKJ	1	B	7	F	9-19	P	A	-F0

1- Product	
MKJ	MKJ Series
2- Coupling	
1	Threaded Coupling, Double Start ACME Thread
3- Class	
A	Environmental with Banding/Overmolding Attachment
B	Environmental with Threaded Accessory Attachment
4- Shell Style	
7	Jam Nut Receptacle-Rear Panel Mount
5- Plating	
C	Aluminum / Anodized, Black
F	Aluminum/Electroless Nickel
K	Stainless Steel / Passivated
N	Stainless Steel/Electroless Nickel
T	Aluminum/Teflon Nickel
W	Aluminum/Olive Drab Cadmium over Electroless Nickel
Y	Stainless Steel / Electroless Nickel, Black
Z	Aluminum/Zinc Nickel, Black

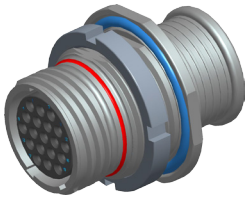
6- Standard Arrangements (For Combo, please reference pages 12-13)			
5-3	3 Size 23 Contacts	6-1	1 Size 16 Contact
6-4	4 Size 23 Contacts	8-2	2 Size 16 Contacts
6-6	6 Size 23 Contacts	9-4	4 Size 16 Contacts
6-7	7 Size 23 Contacts	10-5	5 Size 16 Contacts
7-10	10 Size 23 Contacts	13-7	7 Size 16 Contacts
8-13	13 Size 23 Contacts	16-12	12 Size 16 Contacts
9-19	19 Size 23 Contacts	17-14	14 Size 16 Contacts
10-26	26 Size 23 Contacts	19-19	19 Size 16 Contacts
11-31	31 Size 23 Contacts	21-22	22 Size 16 Contacts
13-37	37 Size 23 Contacts	7-1	1 Size 12 Contact
16-55	55 Size 23 Contacts	10-2	2 Size 12 Contacts
17-85	85 Size 23 Contacts	13-2	2 Size 12 Contact
19-100	100 Size 23 Contacts	13-3	3 Size 12 Contact
21-130	130 Size 23 Contacts	16-4	4 Size 12 Contact
6-23	3 Size 20HD Contacts	16-5	5 Size 12 Contact
7-25	5 Size 20HD Contacts	17-7	7 Size 12 Contact
8-28	8 Size 20HD Contacts	21-12	12 Size 12 Contact
9-210	10 Size 20HD Contacts		
13-220	20 Size 20HD Contacts		
16-235	35 Size 20HD Contacts		
17-241	41 Size 20HD Contacts		
19-255	55 Size 20HD Contacts		
21-269	69 Size 20HD Contacts		

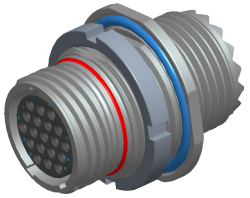
7- Contact Style	
P	Pin, Crimp, Removable
S	Socket, Crimp, Removable
E	Pin, Solder Cup
F	Socket, Solder Cup

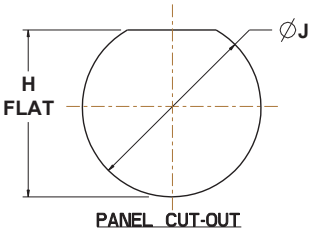
8- Clocking		
Position	K1°	K2°
A (Normal)	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°
E	75°	275°
F	95°	210°

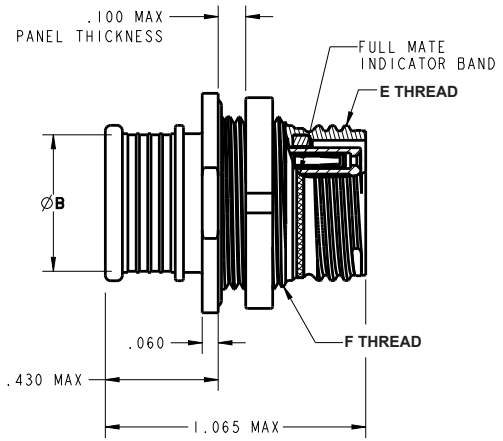
9- Modification Codes	
-F0	Less Contacts ("F0" not stamped on connector, but must be included on the P.O.)

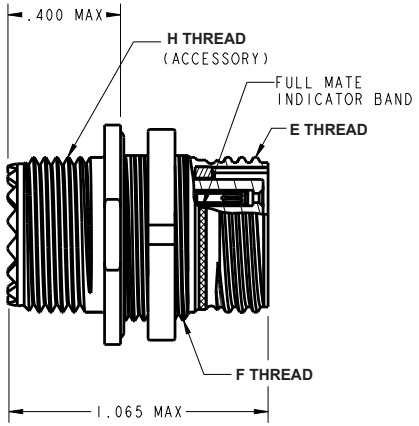
MKJ1 Jam Nut Receptacle - Rear Panel Mount

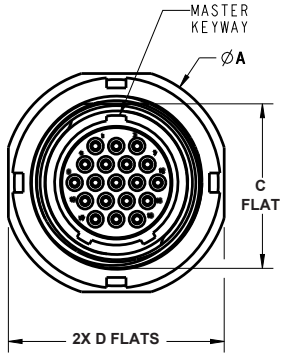












MKJ1 Jam Nut Receptacle - Rear Panel Mount
Banding/Overmolding Attachment

MKJ1 Jam Nut Receptacle - Rear Panel Mount
Threaded Accessory Attachment

MKJ1 Jam Nut Receptacle - Rear Panel Mount Dimensions									
SHELL SIZE	ØA	ØB	C, FLAT	D, FLATS	E, THD DOUBLE START	F, THD UN-2A	H, THD UNEF-2A (ACCESSORY)	H FLAT ±.002	ØJ
5	0.575	0.245	0.350	0.545	.3125-.05P-.1L-2A	.3750-28	.2500-32	.356	.385
6	0.635	0.290	0.410	0.595	.3750-.05P-.1L-2A	.4375-28 UNEF	.3125-32	.420	.448
7	0.755	0.390	0.536	0.723	.4375-.05P-.1L-2A	.5625-32	.4375-28	.551	.573
8	0.755	0.445	0.536	0.723	.5000-.05P-.1L-2A	.5625-32	.5000-28	.551	.573
9	0.830	0.500	0.596	0.790	.5625-.05P-.1L-2A	.6250-28	.5625-24	.609	.635
10	0.890	0.562	0.658	0.855	.6250-.05P-.1L-2A	.6875-28	.6250-24	.666	.697
13	1.078	0.650	0.845	1.044	.8125-.1P-.2L-2A	.8750-28	.6875-24	.859	.885
16	1.264	0.805	1.022	1.230	1.0000-.1P-.2L-2A	1.0625-20	.9375-20	1.028	1.075
17	1.325	0.850	1.096	1.290	1.0625-.1P-.2L-2A	1.1250-28	.9375-20	1.102	1.135
19	1.450	1.003	1.227	1.415	1.1875-.1P-.2L-2A	1.2500-28	1.0625-18	1.243	1.260
21	1.625	1.110	1.347	1.577	1.3125-.1P-.2L-2A	1.375-28	1.1875-18	1.354	1.385

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

MKJ1 Box Mount Receptacle - Square Flange PCB

Part Number Configurator

1- Series	2- Coupling	3- Class	4- Shell Style	5- Plating	6- Arrangement	7- Contact Style	8- Clocking	9- MOD Codes
MKJ	1	C	7	F	9-19	B	A	-518

1- Product	
MKJ	MKJ Series
2- Coupling	
1	Threaded Coupling, Double Start ACME Thread
3- Class	
C	Back-Potted Receptacle-PC/Flex/Solder
4- Shell Style	
2	Box Mount Receptacle-Square Flange PCB
5- Plating	
C	Aluminum / Anodized, Black
F	Aluminum/Electroless Nickel
K	Stainless Steel / Passivated
N	Stainless Steel/Electroless Nickel
T	Aluminum/Teflon Nickel
W	Aluminum/Olive Drab Cadmium over Electroless Nickel
Y	Stainless Steel / Electroless Nickel, Black
Z	Aluminum/Zinc Nickel, Black

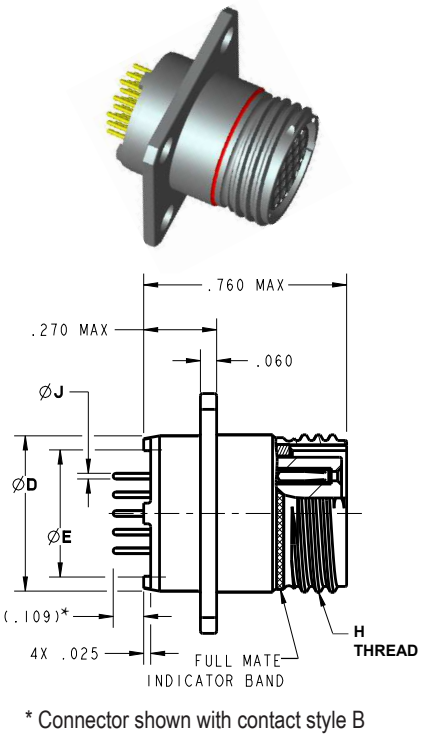
6- Standard Arrangements (For Combo, please reference pages 12-13)			
5-3	3 Size 23 Contacts	6-1	1 Size 16 Contact
6-4	4 Size 23 Contacts	8-2	2 Size 16 Contacts
6-6	6 Size 23 Contacts	9-4	4 Size 16 Contacts
6-7	7 Size 23 Contacts	10-5	5 Size 16 Contacts
7-10	10 Size 23 Contacts	13-7	7 Size 16 Contacts
8-13	13 Size 23 Contacts	16-12	12 Size 16 Contacts
9-19	19 Size 23 Contacts	17-14	14 Size 16 Contacts
10-26	26 Size 23 Contacts	19-19	19 Size 16 Contacts
11-31	31 Size 23 Contacts	21-22	22 Size 16 Contacts
13-37	37 Size 23 Contacts	7-1	1 Size 12 Contact
16-55	55 Size 23 Contacts	10-2	2 Size 12 Contacts
17-85	85 Size 23 Contacts	13-2	2 Size 12 Contact
19-100	100 Size 23 Contacts	13-3	3 Size 12 Contact
21-130	130 Size 23 Contacts	16-4	4 Size 12 Contact
6-23	3 Size 20HD Contacts	16-5	5 Size 12 Contact
7-25	5 Size 20HD Contacts	17-7	7 Size 12 Contact
8-28	8 Size 20HD Contacts	21-12	12 Size 12 Contact
9-210	10 Size 20HD Contacts		
13-220	20 Size 20HD Contacts		
16-235	35 Size 20HD Contacts		
17-241	41 Size 20HD Contacts		
19-255	55 Size 20HD Contacts		
21-269	69 Size 20HD Contacts		

7- Contact Style	
A	Pin, PC-Tail, .062 Extension
B	Pin, PC-Tail, .109 Extension
G	Pin, PC-Tail, .125 Extension
C	Socket, PC Tail, .062 Extension
D	Socket, PC Tail, .109 Extension
H	Socket, PC Tail, .125 Extension
E	Pin, Solder Cup
F	Socket, Solder Cup

8- Clocking		
Position	K1°	K2°
A (Normal)	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°
E	75°	275°
F	95°	210°

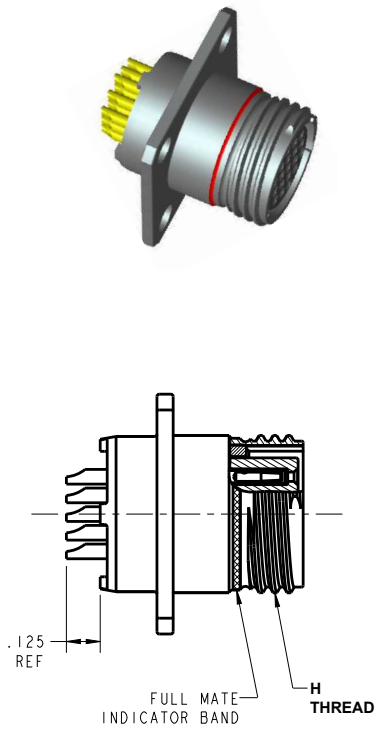
9- Modification Codes	
-F0	Less Contacts ("F0" not stamped on connector, but must be included on the P.O.)
-518	Class "C" PC style black potted connectors w/water immersion testing

MKJ 1 Box Mount Receptacle - Square Flange PCB

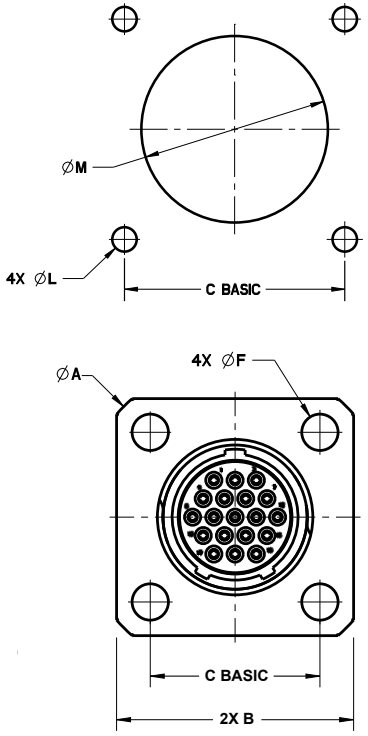


* Connector shown with contact style B

MKJ1 Box Mount Receptacle - Square Flange with PC Tail



MKJ1 Box Mount Receptacle - Square Flange with Solder Cup



MKJ1 Box Mount Receptacle - Square Flange PCB Dimensions										
SHELL SIZE	ØA	B, SQ	C, BSC	ØD	ØE	ØF	H THREAD	ØJ	ØL	ØM
5	0.680	0.530	0.363	0.244	0.177	.096 / .090	.3125-.05P-.1L-2A	Size 23 .018/.022 Size 20HD .024/.028 Size 16 .060/.064 Size 12 .092/.096	.096 / .090	0.328
6	0.750	0.590	0.423	0.330	0.242		.3750-.05P-.1L-2A			0.390
7	0.850	0.650	0.483	0.432	0.327		.4375-.05P-.1L-2A			0.453
8	0.938	0.712	0.545	0.493	0.391		.5000-.05P-.1L-2A			0.515
9	1.125	0.850	0.607	0.551	0.447	.131 / .125	.5625-.05P-.1L-2A		.131 / .125	0.578
10	1.188	0.890	0.670	0.620	0.518		.6250-.05P-.1L-2A			0.640
13	1.375	1.030	0.812	0.703	0.599		.8125-.1P-.2L-2A			0.828
16	1.625	1.219	0.981	0.863	0.760		1.000-.1P-.2L-2A			1.015
17	1.700	1.280	1.060	0.912	0.810		1.0625-.1P-.2L-2A			1.078
19	1.900	1.432	1.191	1.018	0.910		1.1875-.1P-.2L-2A			1.203
21	2.100	1.565	1.322	1.170	1.061		1.3125-.1P-.2L-2A			1.328

MKJ1 Jam Nut Receptacle- Rear Panel Mount PCB

Part Number Configurator

1- Series	2- Coupling	3- Class	4- Shell Style	5- Plating	6- Arrangement	7- Contact Style	8- Clocking	9- MOD Codes
MKJ	1	C	7	F	9-19	B	A	-518

1- Product	
MKJ	MKJ Series -
2- Coupling	
1	Threaded Coupling, Double Start ACME Thread
3- Class	
C	Back-Potted Receptacle-PC/Flex/Solder
4- Shell Style	
7	Jam Nut Receptacle-Rear Panel Mount PCB
5- Plating	
C	Aluminum / Anodized, Black
F	Aluminum/Electroless Nickel
K	Stainless Steel / Passivated
N	Stainless Steel/Electroless Nickel
T	Aluminum/Teflon Nickel
W	Aluminum/Olive Drab Cadmium over Electroless Nickel
Y	Stainless Steel / Electroless Nickel, Black
Z	Aluminum/Zinc Nickel, Black

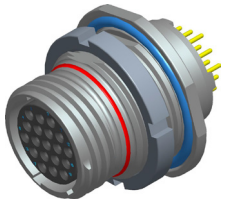
6- Standard Arrangements (For Combo, please reference pages 12-13)			
5-3	3 Size 23 Contacts	6-1	1 Size 16 Contact
6-4	4 Size 23 Contacts	8-2	2 Size 16 Contacts
6-6	6 Size 23 Contacts	9-4	4 Size 16 Contacts
6-7	7 Size 23 Contacts	10-5	5 Size 16 Contacts
7-10	10 Size 23 Contacts	13-7	7 Size 16 Contacts
8-13	13 Size 23 Contacts	16-12	12 Size 16 Contacts
9-19	19 Size 23 Contacts	17-14	14 Size 16 Contacts
10-26	26 Size 23 Contacts	19-19	19 Size 16 Contacts
11-31	31 Size 23 Contacts	21-22	22 Size 16 Contacts
13-37	37 Size 23 Contacts	7-1	1 Size 12 Contact
16-55	55 Size 23 Contacts	10-2	2 Size 12 Contacts
17-85	85 Size 23 Contacts	13-2	2 Size 12 Contact
19-100	100 Size 23 Contacts	13-3	3 Size 12 Contact
21-130	130 Size 23 Contacts	16-4	4 Size 12 Contact
6-23	3 Size 20HD Contacts	16-5	5 Size 12 Contact
7-25	5 Size 20HD Contacts	17-7	7 Size 12 Contact
8-28	8 Size 20HD Contacts	21-12	12 Size 12 Contact
9-210	10 Size 20HD Contacts		
13-220	20 Size 20HD Contacts		
16-235	35 Size 20HD Contacts		
17-241	41 Size 20HD Contacts		
19-255	55 Size 20HD Contacts		
21-269	69 Size 20HD Contacts		

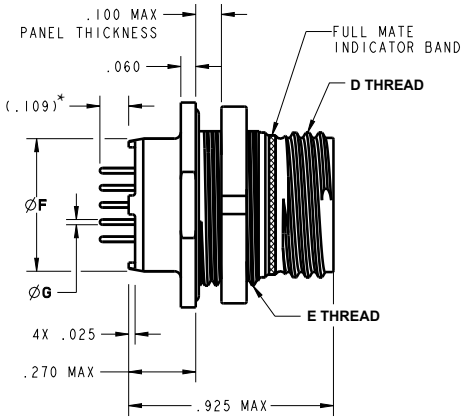
7- Contact Style	
A	Pin, PC-Tail, .062 Extension
B	Pin, PC-Tail, .109 Extension
G	Pin, PC-Tail, .125 Extension
C	Socket, PC Tail, .062 Extension
D	Socket, PC Tail, .109 Extension
H	Socket, PC Tail, .125 Extension
E	Pin, Solder Cup
F	Socket, Solder Cup

8- Clocking		
Position	K1°	K2°
A (Normal)	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°
E	75°	275°
F	95°	210°

9- Modification Codes	
-F0	Less Contacts (“F0” not stamped on connector, but must be included on the P.O.)
-518	Class “C” PC style black potted connectors w/water immersion testing

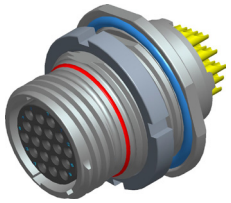
MKJ1 Jam Nut Receptacle - Rear Panel Mount PCB

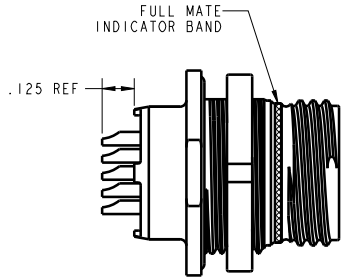




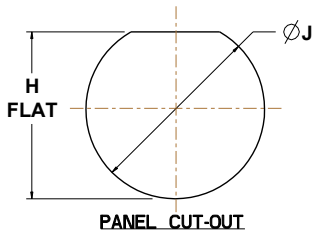
* Connector shown with contact style B

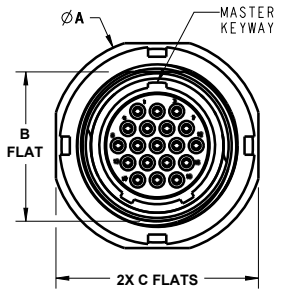
MKJ1 Jam Nut Receptacle - Rear Mount PCB with PC Tail





MKJ1 Jam Nut Receptacle - Rear Mount PCB with Solder Cup





MKJ1 Jam Nut Receptacle - Rear Panel Mount PCB Dimensions

SHELL SIZE	ØA	B, FLAT	C, FLATS	D, THREAD DBL START	E, THREAD UN-2A	ØF	ØG	H FLAT ±.002	ØJ
5	0.575	0.350	0.545	.3125-.05P-.1L-2A	.3750-28	0.244	SIZE 23 .018/.022 SIZE 20HD .024/.028 SIZE 16 .060/.064 SIZE 12 .092/.096	.356	.385
6	0.635	0.410	0.595	.3750-.05P-.1L-2A	.4375-28 UNEF	0.322		.420	.448
7	0.755	0.536	0.723	.4375-.05P-.1L-2A	.5625-32	0.432		.551	.573
8	0.755	0.536	0.723	.5000-.05P-.1L-2A	.5625-32	0.492		.551	.573
9	0.830	0.596	0.790	.5625-.05P-.1L-2A	.6250-28	0.512		.609	.635
10	0.890	0.658	0.855	.6250-.05P-.1L-2A	.6875-28	0.620		.666	.697
13	1.078	0.845	1.044	.8125-.1P-.2L-2A	.8750-28	0.677		.859	.885
16	1.264	1.022	1.230	1.0000-.1P-.2L-2A	1.0625-20	0.863		1.028	1.075
17	1.325	1.096	1.290	1.0625-.1P-.2L-2A	1.1250-28	0.912		1.102	1.135
19	1.450	1.225	1.415	1.1875-.1P-.2L-2A	1.2500-28	1.018		1.243	1.260
21	1.625	1.345	1.577	1.3125-.1P-.2L-2A	1.3750-28	1.170		1.354	1.385

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

MKJ1 Jam Nut Receptacle - Square Flange PCB

Part Number Configurator

1- Series	2- Coupling	3- Class	4- Shell Style	5- Plating	6- Arrangement	7- Contact Style	8- Clocking	9- MOD Codes
MKJ	1	C	75	F	9-19	B	A	-518

1- Product	
MKJ	MKJ Series -
2- Coupling	
1	Threaded Coupling, Double Start ACME Thread
3- Class	
C	Back-Potted Receptacle-PC/Flex/Solder
4- Shell Style	
75	Jam Nut Receptacle-Square Flange PCB
5- Plating	
C	Aluminum / Anodized, Black
F	Aluminum/Electroless Nickel
K	Stainless Steel / Passivated
N	Stainless Steel/Electroless Nickel
T	Aluminum/Teflon Nickel
W	Aluminum/Olive Drab Cadmium over Electroless Nickel
Y	Stainless Steel / Electroless Nickel, Black
Z	Aluminum/Zinc Nickel, Black

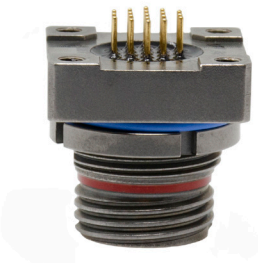
6- Standard Arrangements (For Combo, please reference pages 12-13)			
5-3	3 Size 23 Contacts	6-1	1 Size 16 Contact
6-4	4 Size 23 Contacts	8-2	2 Size 16 Contacts
6-6	6 Size 23 Contacts	9-4	4 Size 16 Contacts
6-7	7 Size 23 Contacts	10-5	5 Size 16 Contacts
7-10	10 Size 23 Contacts	13-7	7 Size 16 Contacts
8-13	13 Size 23 Contacts	16-12	12 Size 16 Contacts
9-19	19 Size 23 Contacts	17-14	14 Size 16 Contacts
10-26	26 Size 23 Contacts	19-19	19 Size 16 Contacts
11-31	31 Size 23 Contacts	21-22	22 Size 16 Contacts
13-37	37 Size 23 Contacts	7-1	1 Size 12 Contact
16-55	55 Size 23 Contacts	10-2	2 Size 12 Contacts
17-85	85 Size 23 Contacts	13-2	2 Size 12 Contact
19-100	100 Size 23 Contacts	13-3	3 Size 12 Contact
21-130	130 Size 23 Contacts	16-4	4 Size 12 Contact
6-23	3 Size 20HD Contacts	16-5	5 Size 12 Contact
7-25	5 Size 20HD Contacts	17-7	7 Size 12 Contact
8-28	8 Size 20HD Contacts	21-12	12 Size 12 Contact
9-210	10 Size 20HD Contacts		
13-220	20 Size 20HD Contacts		
16-235	35 Size 20HD Contacts		
17-241	41 Size 20HD Contacts		
19-255	55 Size 20HD Contacts		
21-269	69 Size 20HD Contacts		

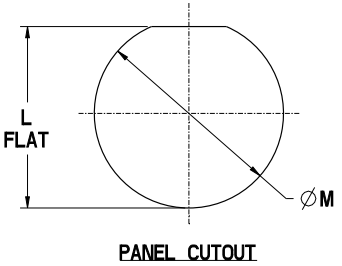
7- Contact Style	
A	Pin, PC-Tail, .062 Extension
B	Pin, PC-Tail, .109 Extension
G	Pin, PC-Tail, .125 Extension
C	Socket, PC Tail, .062 Extension
D	Socket, PC Tail, .109 Extension
H	Socket, PC Tail, .125 Extension
E	Pin, Solder Cup
F	Socket, Solder Cup

8- Clocking		
Position	K1°	K2°
A (Normal)	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°
E	75°	275°
F	95°	210°

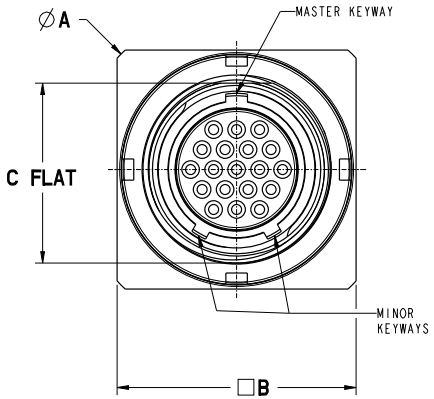
9- Modification Codes	
-F0	Less Contacts (“F0” not stamped on connector, but must be included on the P.O.)
-518	Class “C” PC style black potted connectors w/water immersion testing

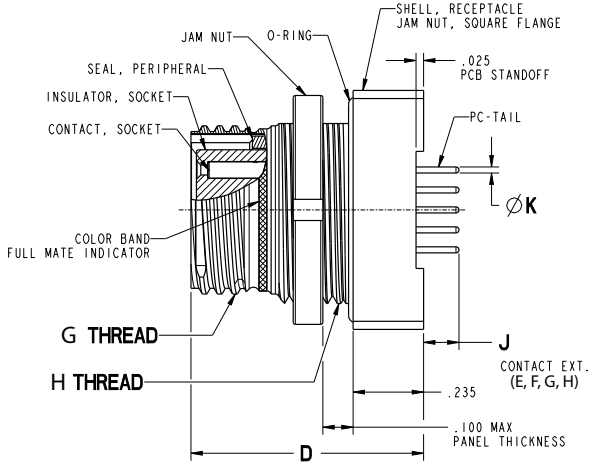
MKJ1 Jam Nut Receptacle - Square Flange PCB

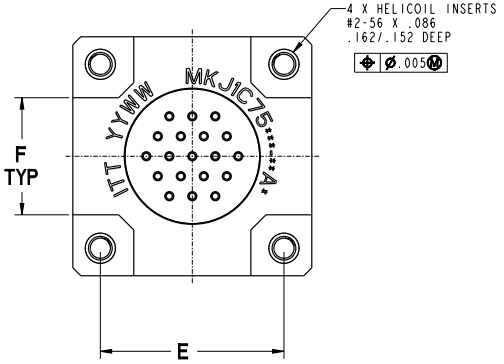




PANEL CUTOUT





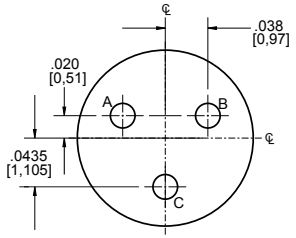
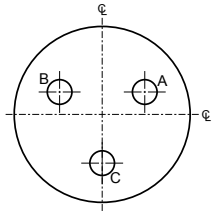
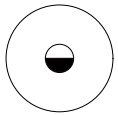
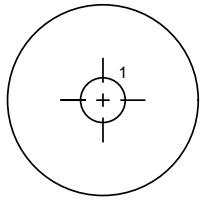
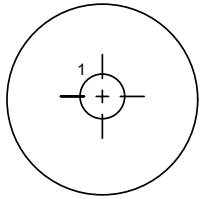
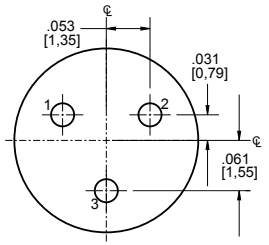
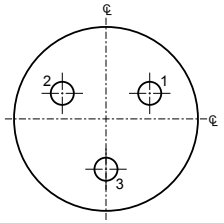
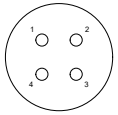
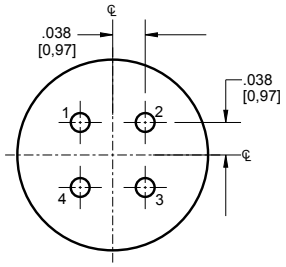
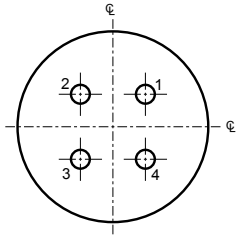


MKJ1 Jam Nut Receptacle - Square Flange PCB Dimensions												
SHELL SIZE	ØA	□B	C FLAT	D	E	F	G, THREAD	H, THREAD	J ±.014	ØK ±.002	L FLAT ±.002	ØM +.005 / -.000
5	0.720	0.545	0.348	0.772	0.363	0.143	.3125-.05P-.1L-2A	.3750-28 UN-2A	0.125	SIZE 23 .020 SIZE 20HD .026 SIZE 16 .062 SIZE 12 .094	0.356	0.380
6	0.800	0.595	0.408	0.772	0.423	0.203	.3750-.05P-.1L-2A	.4375-28 UNEF-2A	0.125		0.416	0.443
7	0.900	0.723	0.534	0.772	0.483	0.263	.4375-.05P-.1L-2A	.5625-32 UN-2A	0.125		0.542	0.567
8	0.980	0.723	0.534	0.772	0.545	0.325	.5000-.05P-.1L-2A	.5625-32 UN-2A	0.125		0.542	0.567
9	1.080	0.790	0.594	0.772	0.607	0.387	.5625-.05P-.1L-2A	.6250-28 UN-2A	0.125		0.602	0.630
10	1.160	0.855	0.656	0.772	0.670	0.450	.6250-.05P-.1L-2A	.6875-28 UN-2A	0.125		0.664	0.693
11	1.220	0.925	0.716	0.772	0.715	0.495	.6875-.05P-.1L-2A	.7500-28 UN-2A	0.125		0.726	0.755
13	1.370	1.044	0.843	0.881	0.812	0.592	.8125-.1P-.2L-2A	.8750-28 UN-2A	0.125		0.851	0.880
16	1.620	1.230	1.020	0.881	0.981	0.751	1.0000-.1P-.2L-2A	1.0625-20 UN-2A	0.125		1.028	1.067
17	1.720	1.290	1.094	0.881	1.060	0.840	1.0625-.1P-.2L-2A	1.1250-28 UN-2A	0.125		1.102	1.130
19	1.920	1.415	1.225	0.881	1.191	0.971	1.1875-.1P-.2L-2A	1.2500-28 UN-2A	0.125		1.233	1.255
21	2.100	1.577	1.345	0.881	1.322	1.102	1.3125-.1P-.2L-2A	1.3750-28UN-2A	0.125		1.352	1.380

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

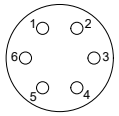
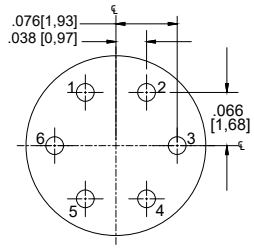
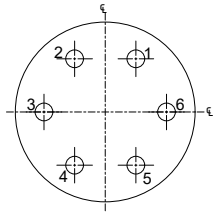
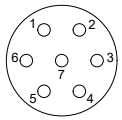
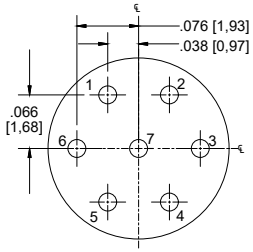
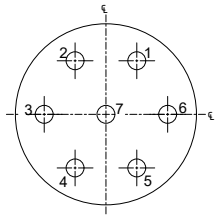
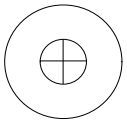
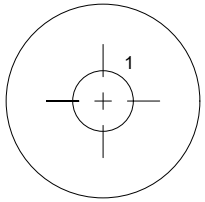
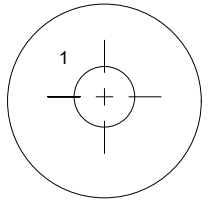
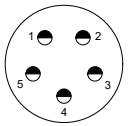
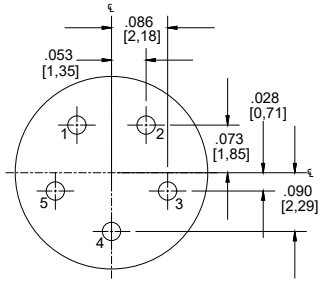
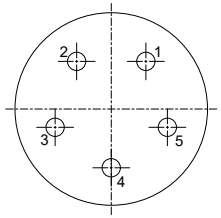
MKJ1 PCB Hole Patterns - Standard Arrangements

Face View of Pin Insulators (Socket layouts reversed)

Layout	Pin	Socket
		
Layout: 5-3 Contact QTY: 3 Contact Size: 23		
		
Layout: 6-1 Contact QTY: 1 Contact Size: 16		
		
Layout: 6-23 Contact QTY: 3 Contact Size: 20HD		
		
Layout: 6-4 Contact QTY: 4 Contact Size: 23		

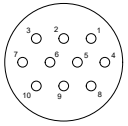
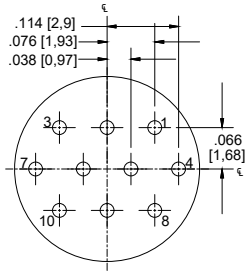
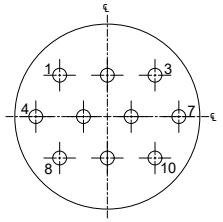
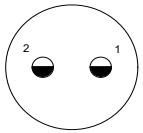
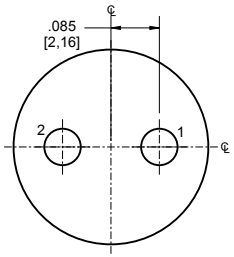
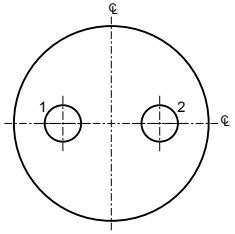
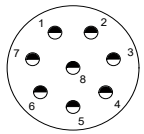
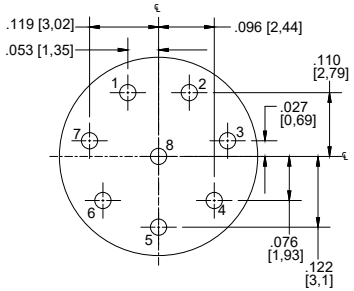
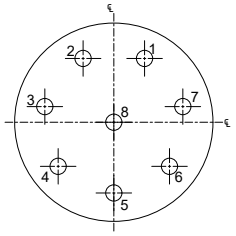
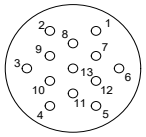
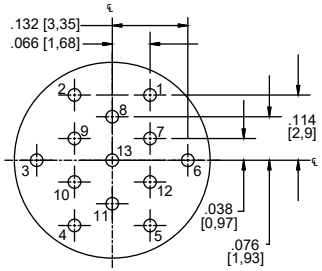
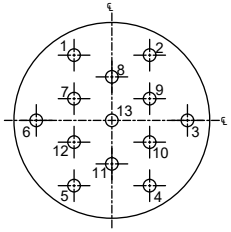
MKJ1 PCB Hole Patterns - Standard Arrangements

Face View of Pin Insulators (Socket layouts reversed)

Layout	Pin	Socket
 Layout: 6-6 Contact QTY: 6 Contact Size: 23		
 Layout: 6-7 Contact QTY: 7 Contact Size: 23		
 Layout: 7-1 Contact QTY: 1 Contact Size: 12		
 Layout: 7-25 Contact QTY: 5 Contact Size: 20HD		

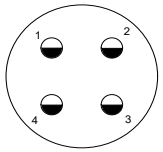
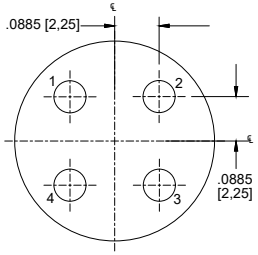
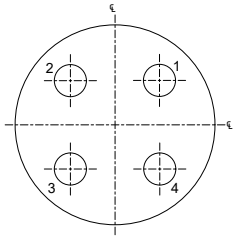
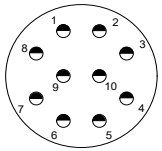
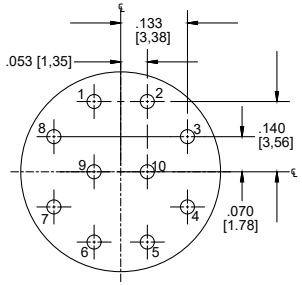
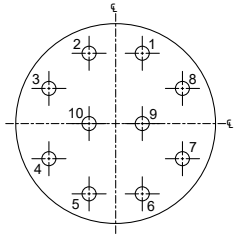
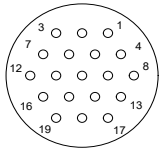
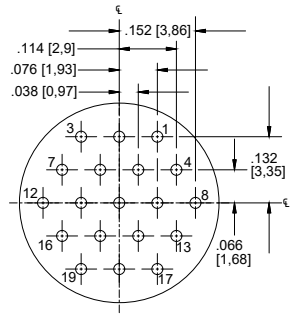
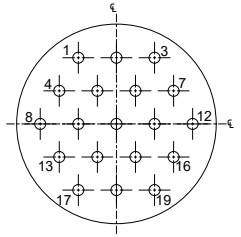
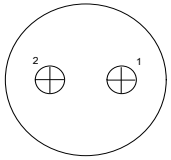
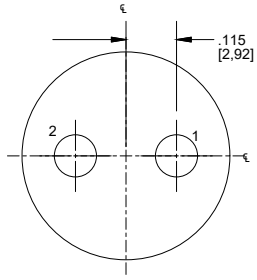
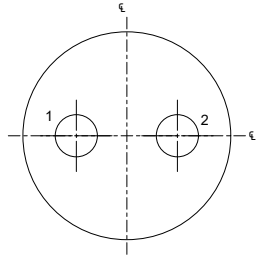
MKJ1 PCB Hole Patterns - Standard Arrangements

Face View of Pin Insulators (Socket layouts reversed)

Layout	Pin	Socket
 Layout: 7-10 Contact QTY: 10 Contact Size: 23		
 Layout: 8-2 Contact QTY: 2 Contact Size: 16		
 Layout: 8-28 Contact QTY: 8 Contact Size: 20HD		
 Layout: 8-13 Contact QTY: 13 Contact Size: 23		

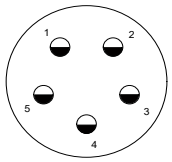
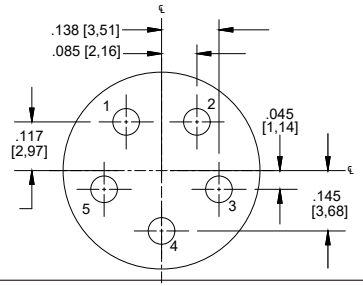
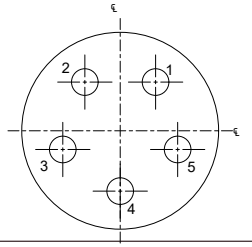
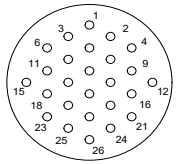
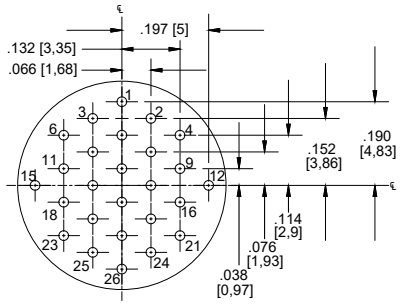
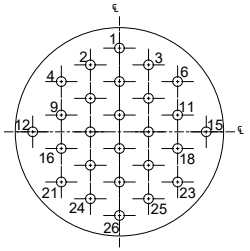
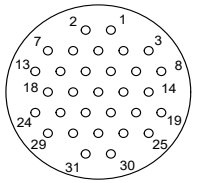
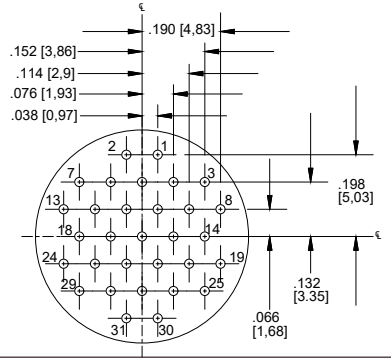
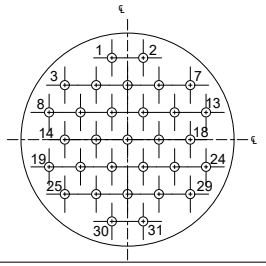
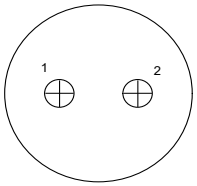
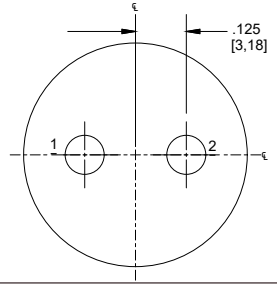
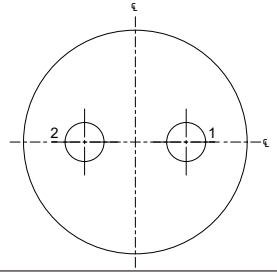
MKJ1 PCB Hole Patterns - Standard Arrangements

Face View of Pin Insulators (Socket layouts reversed)

Layout	Pin	Socket
		
Layout: 9-4 Contact QTY: 4 Contact Size: 16		
		
Layout: 9-210 Contact QTY: 10 Contact Size: 20HD		
		
Layout: 9-19 Contact QTY: 19 Contact Size: 23		
		
Layout: 10-2 Contact QTY: 2 Contact Size: 12		

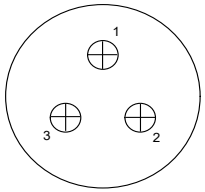
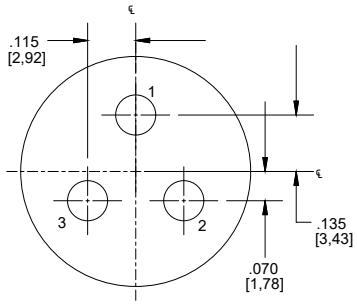
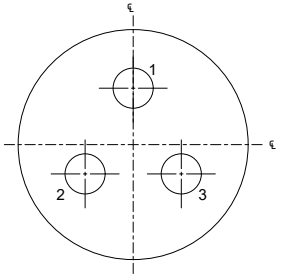
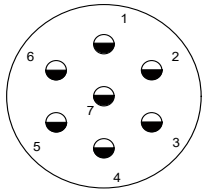
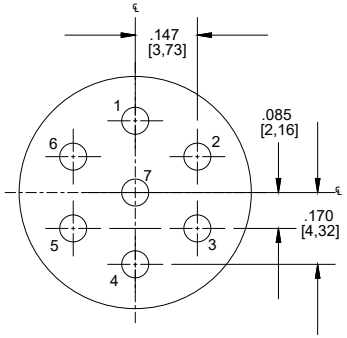
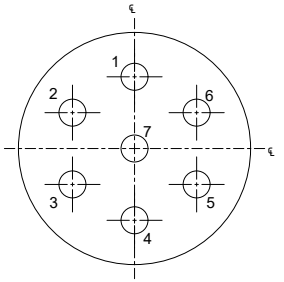
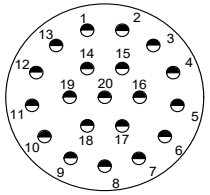
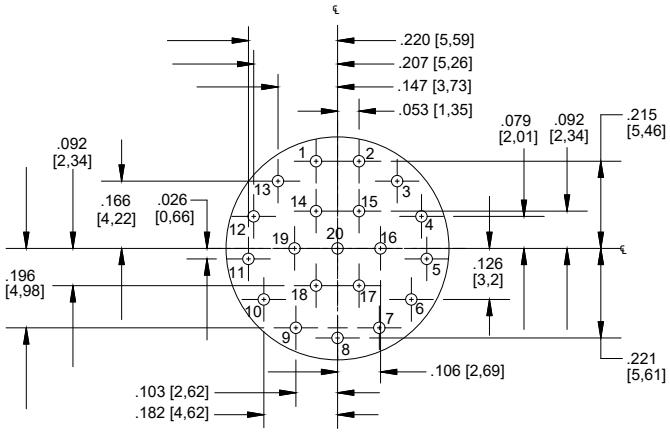
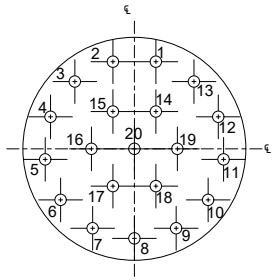
MKJ1 PCB Hole Patterns - Standard Arrangements

Face View of Pin Insulators (Socket layouts reversed)

Layout	Pin	Socket
		
Layout: 10-5 Contact QTY: 5 Contact Size: 16		
		
Layout: 10-26 Contact QTY: 26 Contact Size: 23		
		
Layout: 11-31 Contact QTY: 31 Contact Size: 23		
		
Layout: 13-2 Contact QTY: 2 Contact Size: 12		

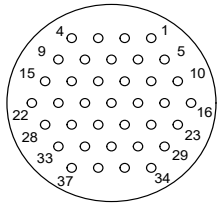
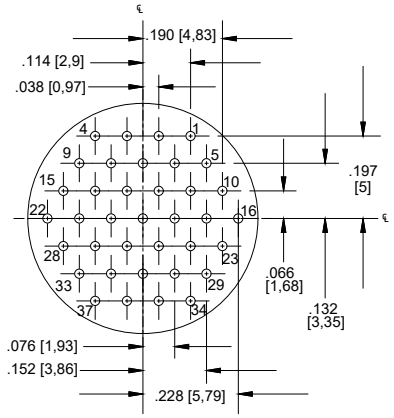
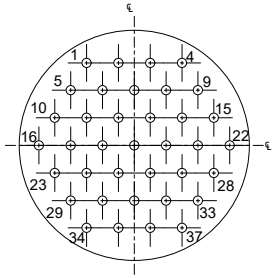
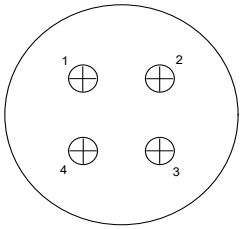
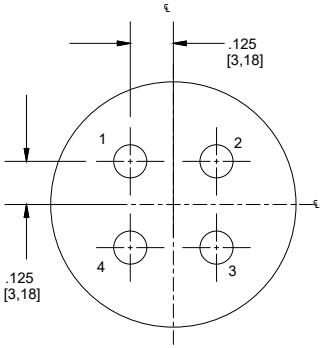
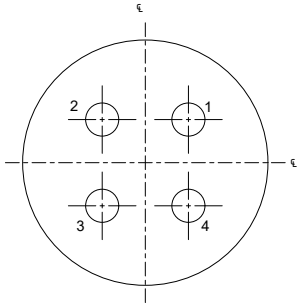
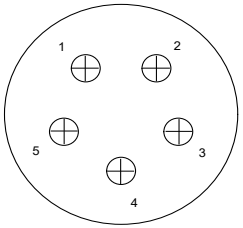
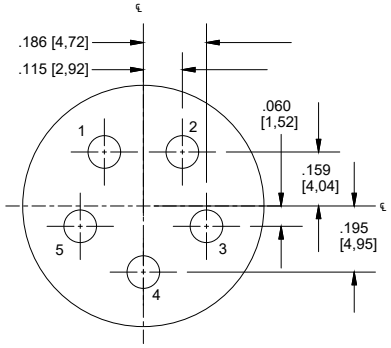
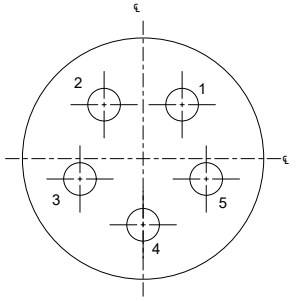
MKJ1 PCB Hole Patterns - Standard Arrangements

Face View of Pin Insulators (Socket layouts reversed)

Layout	Pin	Socket
		
Layout: 13-3 Contact QTY: 3 Contact Size: 12		
		
Layout: 13-7 Contact QTY: 7 Contact Size: 16		
		
Layout: 13-220 Contact QTY: 20 Contact Size: 20HD		

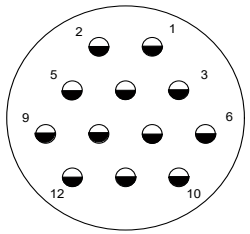
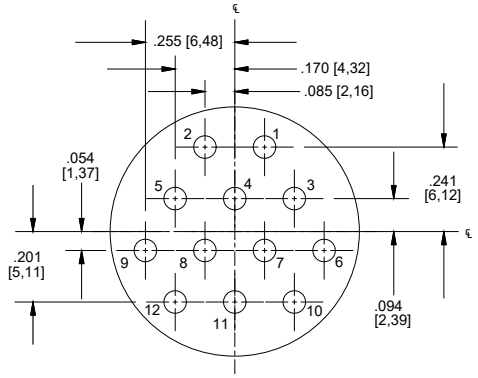
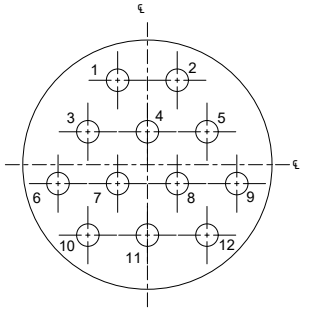
MKJ1 PCB Hole Patterns - Standard Arrangements

Face View of Pin Insulators (Socket layouts reversed)

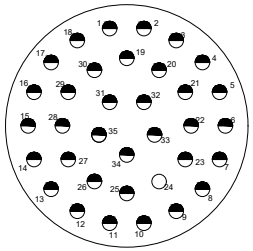
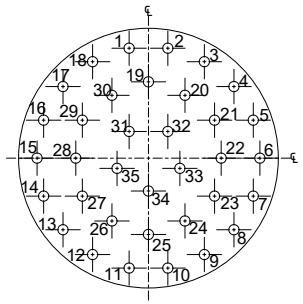
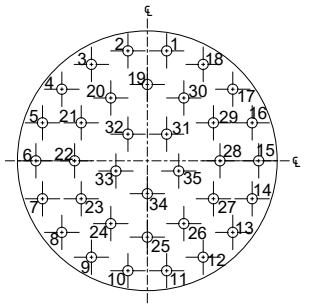
Layout	Pin	Socket
		
Layout: 13-37 Contact QTY: 37 Contact Size: 23		
		
Layout: 16-4 Contact QTY: 4 Contact Size: 12		
		
Layout: 16-5 Contact QTY: 5 Contact Size: 12		

MKJ1 PCB Hole Patterns - Standard Arrangements

Face View of Pin Insulators (Socket layouts reversed)

Layout	Pin	Socket
		

Layout	16-12
Contact QTY	12
Contact Size	16

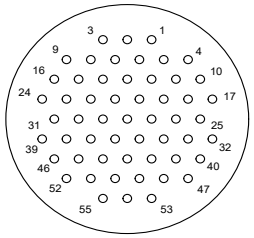
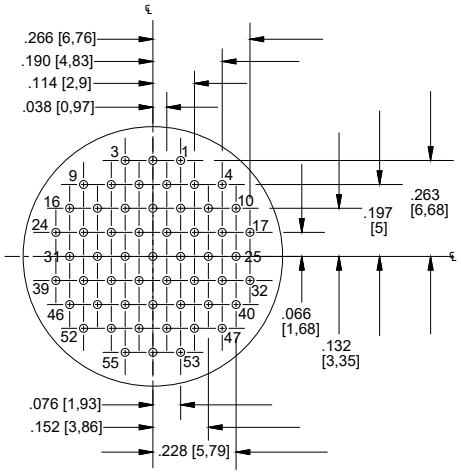
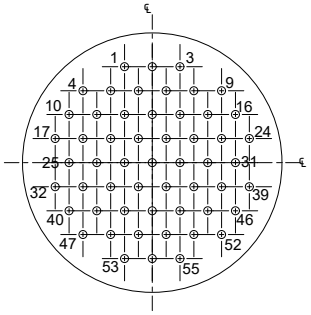
Layout	Pin	Socket
		

Layout	16-235
Contact QTY	35
Contact Size	20HD

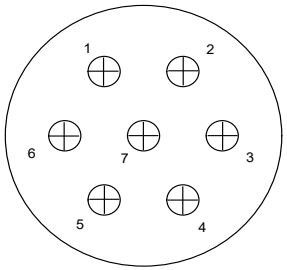
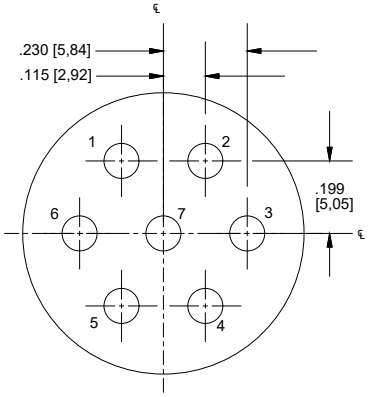
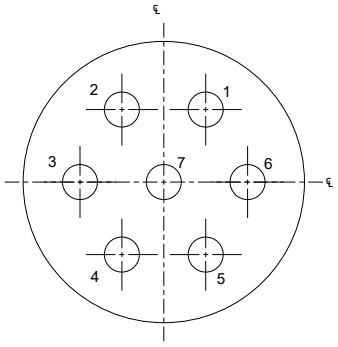
16-235														
Pin. No.	X		Y		Pin. No.	X		Y		Pin. No.	X		Y	
	in.	mm.	in.	mm.		in.	mm.	in.	mm.		in.	mm.	in.	mm.
1	-.053	-1.35	.301	7.65	**13**	-.234	-5.94	-.196	-4.98	**25**	.000	.00	-.209	-5.31
2	.053	1.35	.301	7.65	**14**	-.287	-7.29	-.104	-2.64	**26**	-.100	-2.54	-.172	-4.37
3	.153	3.89	.264	6.71	**15**	-.305	-7.75	.000	.00	**27**	-.181	-4.60	-.104	-2.64
4	.234	5.94	.196	4.98	**16**	-.287	-7.29	.104	2.64	**28**	-.199	-5.05	.000	0.00
5	.287	7.29	.104	2.64	**17**	-.234	-5.94	.196	4.98	**29**	-.181	-4.60	.104	2.64
6	.305	7.75	.000	.00	**18**	-.153	-3.89	.264	6.71	**30**	-.100	-2.54	.172	4.37
7	.287	7.29	-.104	-2.64	**19**	.000	.00	.209	5.31	**31**	-.053	-1.35	.073	1.85
8	.234	5.94	-.196	-4.98	**20**	.100	2.54	.172	4.37	**32**	.053	1.35	.073	1.85
9	.153	3.89	-.264	-6.71	**21**	.181	4.60	.104	2.64	**33**	.086	2.18	-.028	-0.71
10	.053	1.35	-.301	-7.65	**22**	.199	5.05	.000	.00	**34**	.000	.00	-.090	-2.29
11	-.053	-1.35	-.301	-7.65	**23**	.181	4.60	-.104	-2.64	**35**	-.086	-2.18	-.028	-0.71
12	-.153	-3.89	-.264	-6.71	**24**	.100	2.54	-.172	-4.37					

MKJ1 PCB Hole Patterns - Standard Arrangements

Face View of Pin Insulators (Socket layouts reversed)

Layout	Pin	Socket
		

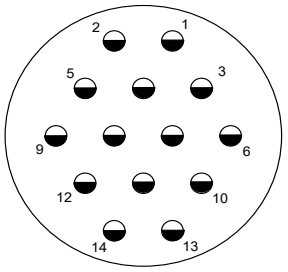
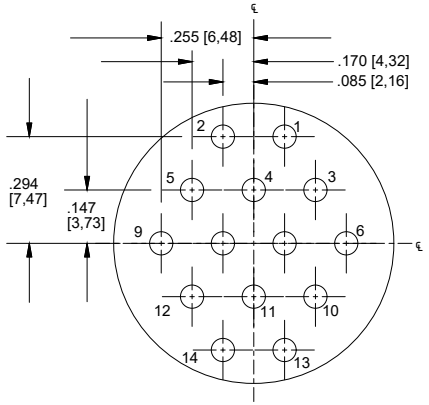
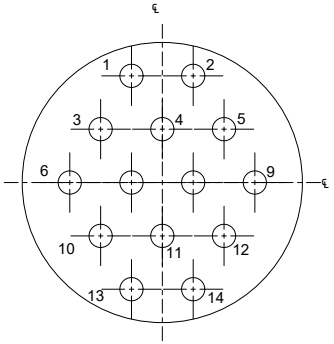
Layout	16-55
Contact QTY	55
Contact Size	23

Layout	Pin	Socket
		

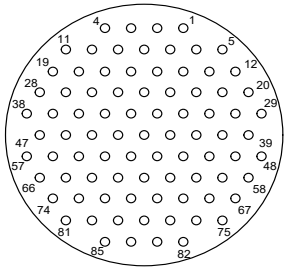
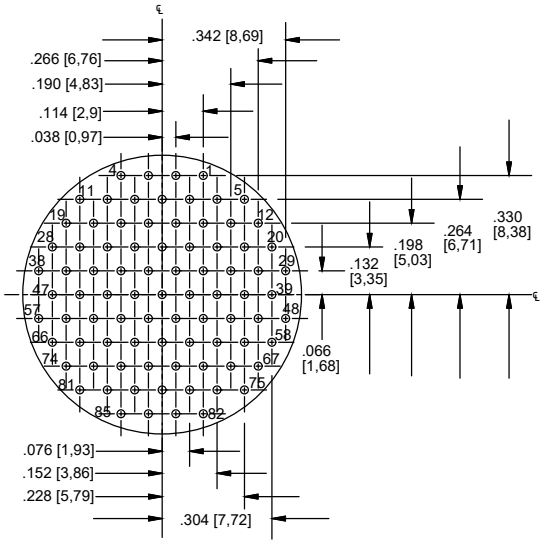
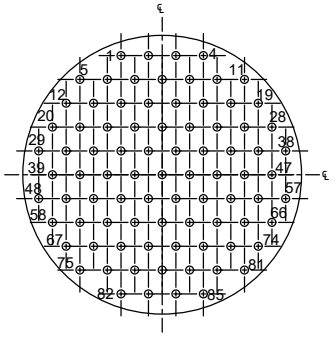
Layout	17-7
Contact QTY	7
Contact Size	12

MKJ1 PCB Hole Patterns - Standard Arrangements

Face View of Pin Insulators (Socket layouts reversed)

Layout	Pin	Socket
		

Layout	17-14
Contact QTY	14
Contact Size	16

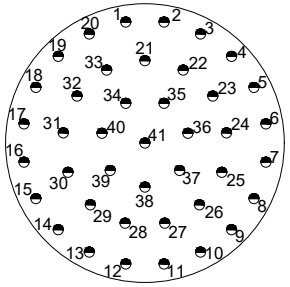
Layout	Pin	Socket
		

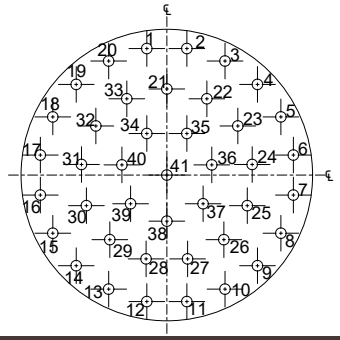
Layout	17-85
Contact QTY	85
Contact Size	23

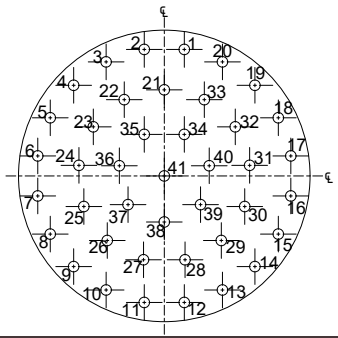
MKJ1 PCB Hole Patterns - Standard Arrangements

Face View of Pin Insulators (Socket layouts reversed)

Layout	Pin	Socket



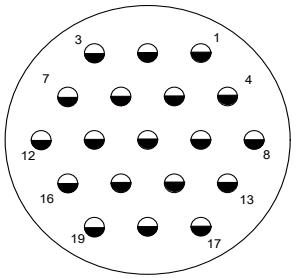




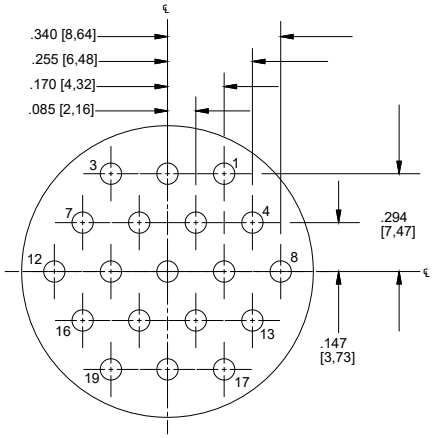
Layout	17-241
Contact QTY	41
Contact Size	20HD

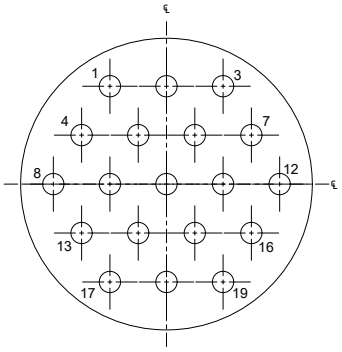
17-241

Pin. No.	X		Y		Pin. No.	X		Y		Pin. No.	X		Y	
	in.	mm.	in.	mm.		in.	mm.	in.	mm.		in.	mm.	in.	mm.
1	-.053	-1.35	.335	8.51	**15**	-.302	-7.67	-.154	-3.91	**29**	-.151	-3.84	-.171	-4.34
2	.053	1.35	.335	8.51	**16**	-.335	-8.51	-.053	-1.35	**30**	-.213	-5.41	-.081	-2.06
3	.154	3.91	.302	7.67	**17**	-.335	-8.51	.053	1.35	**31**	-.226	-5.74	.028	0.71
4	.240	6.10	.240	6.10	**18**	-.302	-7.67	.154	3.91	**32**	-.188	-4.78	.130	3.30
5	.302	7.67	.154	3.91	**19**	-.240	-6.10	.240	6.10	**33**	-.106	-2.69	.202	5.13
6	.335	8.51	.053	1.35	**20**	-.154	-3.91	.302	7.67	**34**	-.053	-1.35	.110	2.79
7	.335	8.51	-.053	-1.35	**21**	.000	0.00	.228	5.79	**35**	.053	1.35	.110	2.79
8	.302	7.67	-.154	-3.91	**22**	.106	2.69	.202	5.13	**36**	.119	3.02	.027	0.69
9	.240	6.10	-.240	-6.10	**23**	.188	4.78	.130	3.30	**37**	.096	2.44	-.076	-1.93
10	.154	3.91	-.302	-7.67	**24**	.226	5.74	.028	0.71	**38**	.000	0.00	-.122	-3.10
11	.053	1.35	-.335	-8.51	**25**	.213	5.41	-.081	-2.06	**39**	-.096	-2.44	-.076	-1.93
12	-.053	-1.35	-.335	-6.51	**26**	.151	3.84	-.171	-4.34	**40**	-.119	-3.02	.027	0.69
13	-.154	-3.91	-.302	-7.67	**27**	.055	1.40	-.222	-5.64	**41**	.000	0.00	.000	0.00
14	-.240	-6.10	-.240	-6.10	**28**	-.055	-1.40	-.222	-5.64					



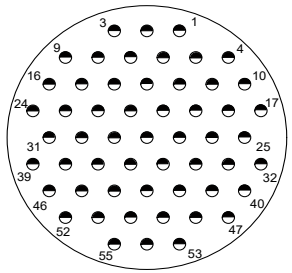
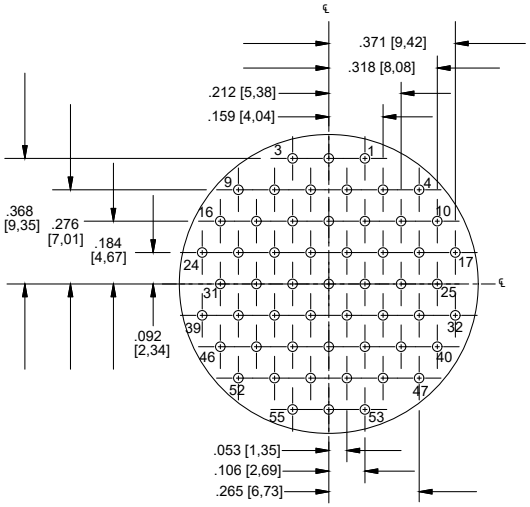
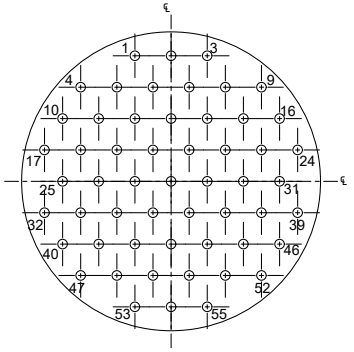
Layout	19-19
Contact QTY	19
Contact Size	16



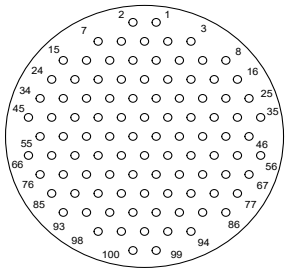
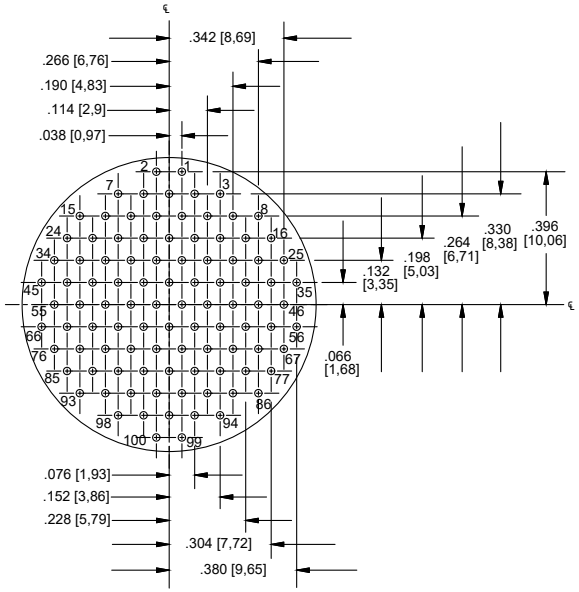
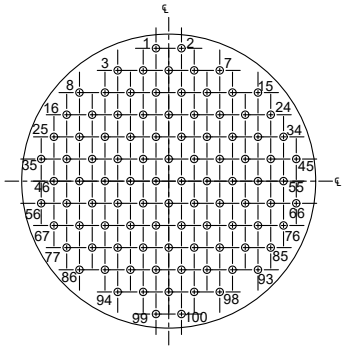


MKJ1 PCB Hole Patterns - Standard Arrangements

Face View of Pin Insulators (Socket layouts reversed)

Layout	Pin	Socket
		

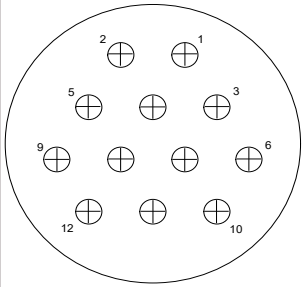
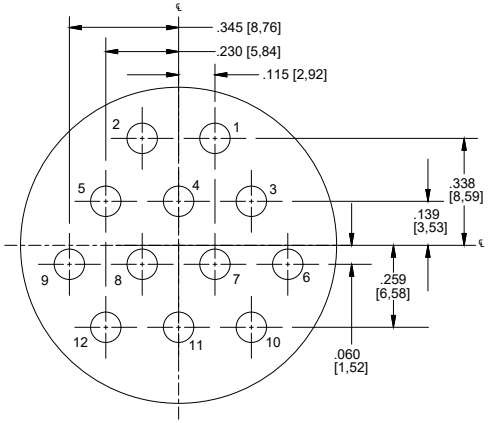
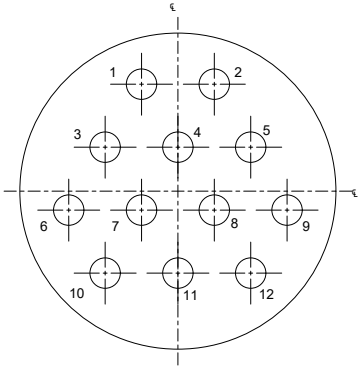
Layout	19-255
Contact QTY	55
Contact Size	20HD

Layout	Pin	Socket
		

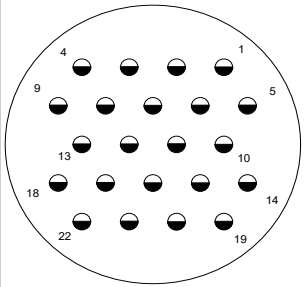
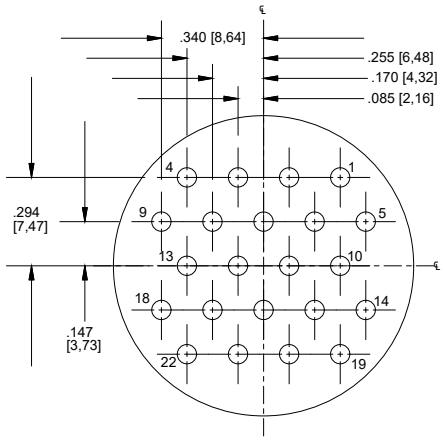
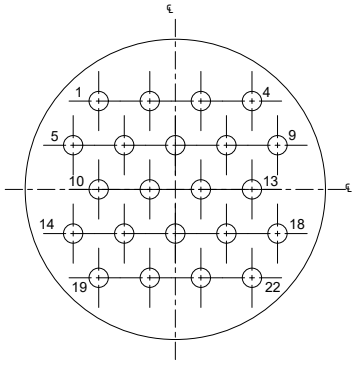
Layout	19-100
Contact QTY	100
Contact Size	23

MKJ1 PCB Hole Patterns - Standard Arrangements

Face View of Pin Insulators (Socket layouts reversed)

Layout	Pin	Socket
		

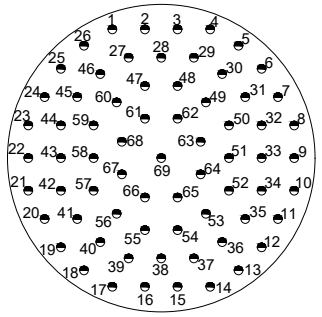
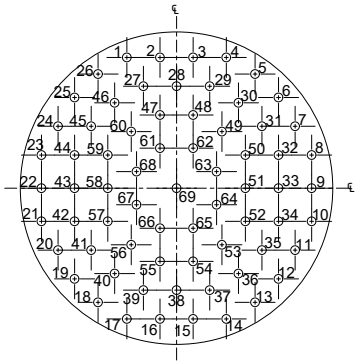
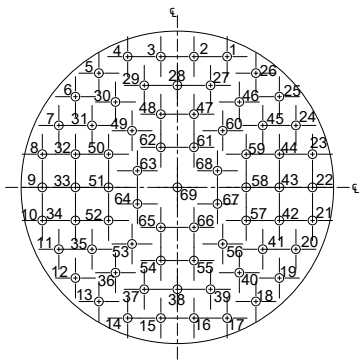
Layout	21-12
Contact QTY	12
Contact Size	12

Layout	Pin	Socket
		

Layout	21-22
Contact QTY	22
Contact Size	16

MKJ1 PCB Hole Patterns - Standard Arrangements

Face View of Pin Insulators (Socket layouts reversed)

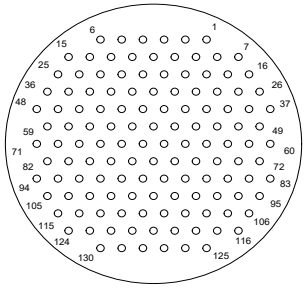
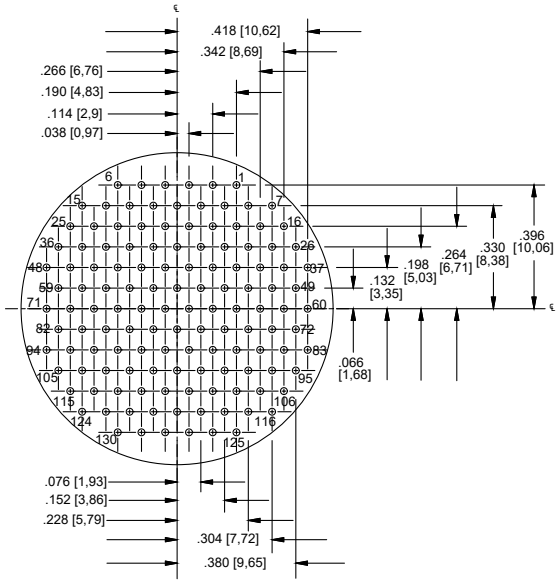
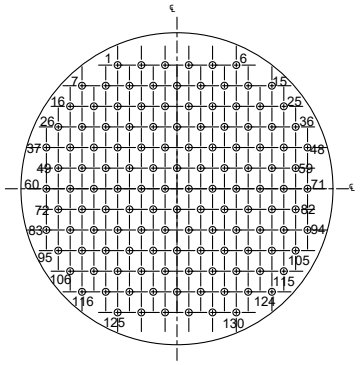
Layout	Pin	Socket
		

Layout	21-269
Contact QTY	69
Contact Size	20HD

21-269														
Pin. No.	X		Y		Pin. No.	X		Y		Pin. No.	X		Y	
	in.	mm.	in.	mm.		in.	mm.	in.	mm.		in.	mm.	in.	mm.
1	-.159	-4.04	.418	10.62	**24**	-.379	-9.63	.198	5.03	**47**	-.053	-1.35	.234	5.94
2	-.053	-1.35	.418	10.62	**25**	-.326	-8.28	.290	7.37	**48**	.053	1.35	.234	5.94
3	.053	1.35	.418	10.62	**26**	-.251	-6.38	.365	9.27	**49**	.145	3.68	.181	4.60
4	.159	4.04	.418	10.62	**27**	-.106	-2.69	.326	8.28	**50**	.220	5.59	.106	2.69
5	.251	6.38	.365	9.27	**28**	.000	0.00	.326	8.28	**51**	.220	5.59	.000	0.00
6	.326	8.28	.290	7.37	**29**	.106	2.69	.326	8.28	**52**	.220	5.59	-.106	-2.69
7	.379	9.63	.198	5.03	**30**	.198	5.03	.273	6.93	**53**	.145	3.68	-.181	-4.60
8	.432	10.97	.106	2.69	**31**	.273	6.93	.198	5.03	**54**	.053	1.35	-.234	-5.94
9	.432	10.97	.000	0.00	**32**	.326	8.28	.106	2.69	**55**	-.053	-1.35	-.234	-5.94
10	.432	10.97	-.106	-2.69	**33**	.326	8.28	.000	0.00	**56**	-.145	-3.68	-.181	-4.60
11	.379	9.63	-.198	-5.03	**34**	.326	8.28	-.106	-2.69	**57**	-.220	-5.59	-.106	-2.69
12	.326	8.28	-.290	-7.37	**35**	.273	6.93	-.198	-5.03	**58**	-.220	-5.59	.000	0.00
13	.251	6.38	-.365	-9.27	**36**	.198	5.03	-.273	-6.93	**59**	-.220	-5.59	.106	2.69
14	.159	4.04	-.418	-10.62	**37**	.106	2.69	-.326	-8.28	**60**	-.145	-3.68	.181	4.60
15	.053	1.35	-.418	-10.62	**38**	.000	0.00	-.326	-8.28	**61**	-.053	-1.35	.128	3.25
16	-.053	-1.35	-.418	-10.62	**39**	-.106	-2.69	-.326	-8.28	**62**	.053	1.35	.128	3.25
17	-.159	-4.04	-.418	-10.62	**40**	-.198	-5.03	-.273	-6.93	**63**	.128	3.25	.053	1.35
18	-.251	-6.38	-.365	-9.27	**41**	-.273	-6.93	-.198	-5.03	**64**	.128	3.25	-.053	-1.35
19	-.326	-8.28	-.290	-7.37	**42**	-.326	-8.28	-.106	-2.69	**65**	.053	1.35	-.128	-3.25
20	-.379	-9.63	-.198	-5.03	**43**	-.326	-8.28	.000	0.00	**66**	-.053	-1.35	-.128	-3.25
21	-.432	-10.97	-.106	-2.69	**44**	-.326	-8.28	.106	2.69	**67**	-.128	-3.25	-.053	-1.35
22	-.432	-10.97	.000	0.00	**45**	-.273	-6.93	.198	5.03	**68**	-.128	-3.25	.053	1.35
23	-.432	-10.97	.106	2.69	**46**	-.198	-5.03	.273	6.93	**69**	.000	0.00	.000	0.00

MKJ1 PCB Hole Patterns - Standard Arrangements

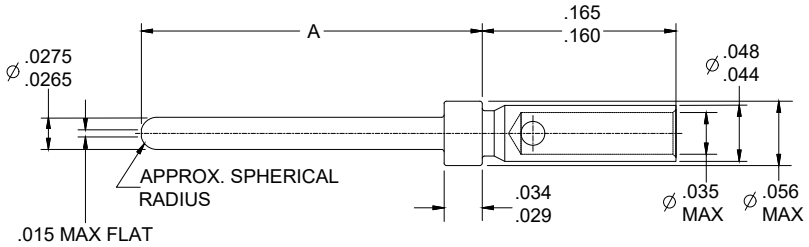
Face View of Pin Insulators (Socket layouts reversed)

Layout	Pin	Socket
		

Layout	21-130
Contact QTY	130
Contact Size	23

MKJ Crimp Contact Drawings

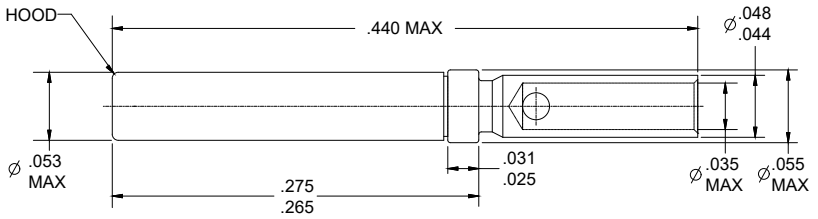
Size #23 Contacts - 5 Amp Max. / Current 750 VAC / #22-#28 AWG



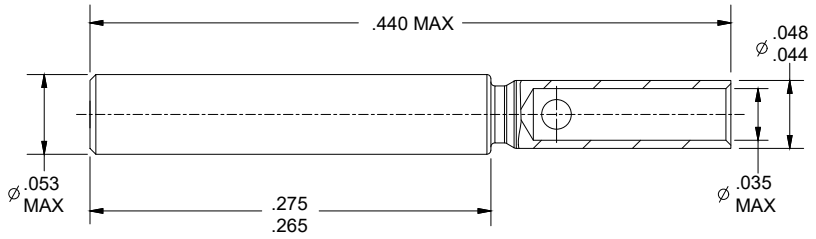
Part Number	A (Dim)	Contact Area Plating	Wire Size
030-9649-000	.283 - .289	50 Micro Inches Gold over Nickel	#22-28 AWG Wire
030-9649-011*	.323 - .327	50 Micro Inches Gold over Nickel	#22-28 AWG Wire
030-9649-100	.283 - .289	50 Micro Inches Gold over Nickel	#26-30 AWG Wire

*First-Mate-Last-Break crimp contact.

Pin - 030-9649-000/-011/-100

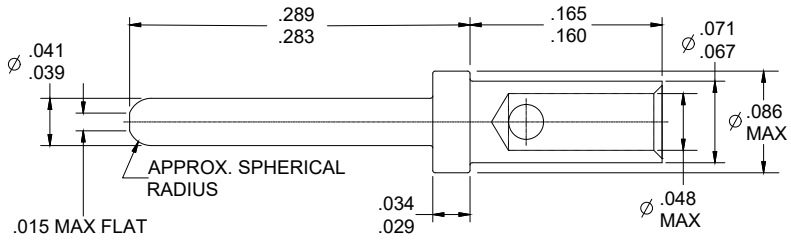


Socket - 031-9750-040 WITH STAINLESS STEEL HOOD

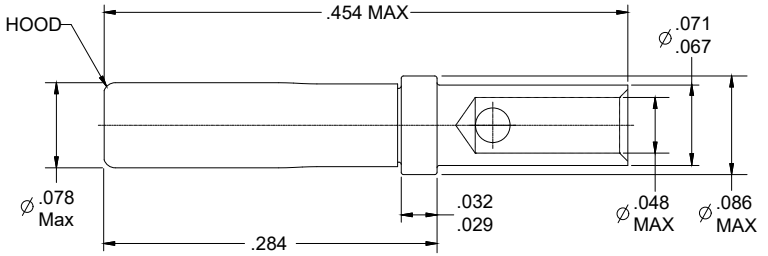


Socket - 031-9750-000 CONTACT Assembly, CRIMP, SIZE 23

Size #20HD Contacts- 7.5 Amp Max. / Current 1000 VAC / #20-#24 AWG



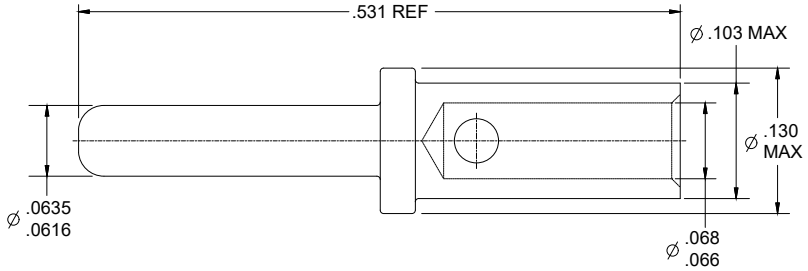
Pin - 030-9661-000



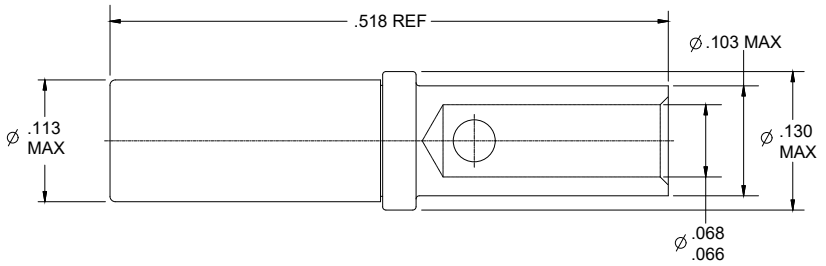
Socket - 031-9766-000

MKJ Crimp Contact Drawings

Size #16 Contacts - 13 Amp Max. / Current 1800 VAC / #16-#20 AWG

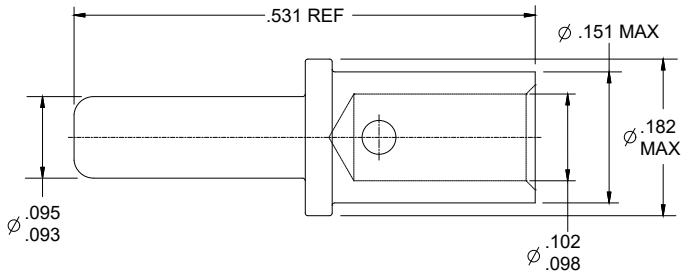


Pin- 980-0008-880

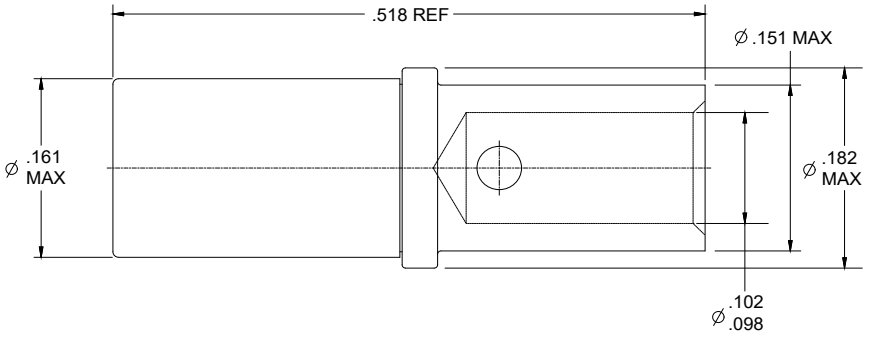


Socket - 980-0008-876

Size #12 Contacts- 23 Amp Max. / Current 1800 VAC / #12-14 AWG



Pin - 980-0008-881



Socket - 980-0008-877

Notes:

Non-removable solder cup and PC tail contacts are supplied with the connectors.
Crimp contacts are supplied with the connector, but not installed. Bulk crimp contacts can be ordered separately.

MKJ1 Series - Accessories

Crimp Tooling

Locator Standard - 995-0002-297

Contact Size	Crimp Tools		Locators	
	ITT Part Number	Military Part number	ITT Part Number	Military Part number
23	995-0002-293	-	995-0002-297	-
20HD	995-0002-293	-	995-0002-303	-
16	995-0001-585	M22520/1-01	-	M22520/1-04
12	995-0001-585	M22520/1-01	-	M22520/1-04

Additional Tooling

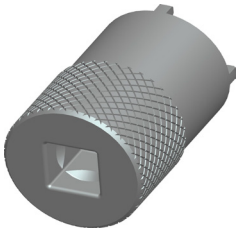
1/8" Bands - 995-0002-299

Tooling	
Tooling Type	Part Number
Insertion Tool	995-0002-295
Extraction Tool	995-0002-294
Hand Banding Tool	995-0002-298
Hand Banding Tool	995-0002-306
1/8" Bands (100 pk)	995-0002-299

Spanner Nut Tool	
Shell Size	Part Number
5	317-2187-035
6	317-2187-000
7, 8	317-2187-001
9	317-2187-002
10	317-2187-012
13	317-2187-003
16	317-2187-016
17	317-2187-017
21	317-2187-036

Hand Banding Tool - 995-0002-298

Hand Banding Tool - 995-0002-306

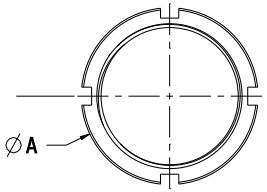


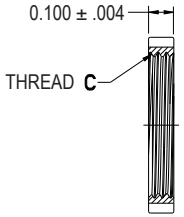
MKJ1 Series - Accessories

Disposable Dust Caps

Disposable Dust Caps			
Shell Size	Part Number	Shell Size	Part Number
5	980-9500-309	11	980-9500-312
6	980-9500-416	13	980-9500-411
7	980-9500-310	16	980-2003-013
8	980-9500-321	17	980-9500-413
9	980-9500-360	19	980-2003-015
10	980-9500-322	21	980-9500-414

Jam Nut

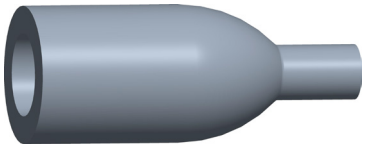


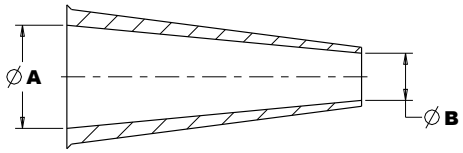


Jam Nut							
SIZE	Material and Finish					ØA ±.005	Thread C
	Aluminum/ Electroless Nickel	Aluminum/ O.D CAD over Nickel	Aluminum/ Teflon Nickel	Aluminum/ Black Zinc Nickel	Stainless Steel/ Electroless Nickel		
5	217-9651-000	217-9651-001	217-9651-002	217-9651-003	217-9651-020	.508	.3750-28 UN-2B
6	217-9652-000	217-9652-001	217-9652-002	217-9652-003	217-9652-020	.574	.4375-28 UNEF-2B
7, 8	217-9653-000	217-9653-001	217-9653-002	217-9653-003	217-9653-020	.688	.5625-32 UN-2B
9	217-9655-000	217-9655-001	217-9655-002	217-9655-003	217-9655-020	.762	.6250-28 UN-2B
10	217-9658-000	217-9658-001	217-9658-002	217-9658-003	217-9658-020	.814	.6875-28 UN-2B
11	217-9654-000	217-9654-001	217-9654-002	217-9654-003	217-9654-020	.858	.7500-28 UN-2B
13	217-9656-000	217-9656-001	217-9656-002	217-9656-003	217-9656-020	1.006	.8750-28 UN-2B
16	217-9701-000	217-9701-001	217-9701-002	217-9701-003	217-9701-020	1.190	1.0625-20 UN-28
17	217-9702-000	217-9702-001	217-9702-002	217-9702-003	217-9702-020	1.252	1.1250-28 UN-2B
19	217-9703-000	217-9703-001	217-9703-002	217-9703-003	217-9703-020	1.370	1.250-28 UN-2B
21	217-9704-000	217-9704-001	217-9704-002	217-9704-003	217-9704-020	1.500	1.375-28 UN-2B

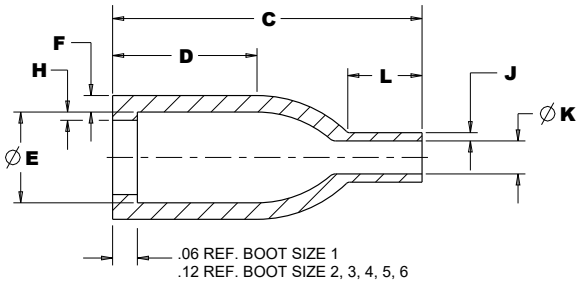
MKJ1 Accessories

Heat Shrink Boot - Straight Angle





STRAIGHT BOOT
(AS PURCHASED, EXPANDED)



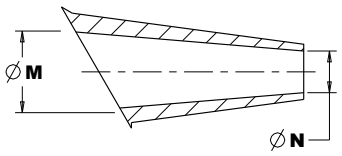
STRAIGHT BOOT (AS RECOVERED)

Heat Shrink Boot - Straight Angle Dimensions														
ITT BOOT SIZE	MIL SPEC	FITS SIZE MKJ1	MATERIAL	ITT PART NUMBER	Ø A MIN	Ø B MIN	C ±10%	D ±10%	Ø E MAX	F ±10%	H ±10%	J ±10%	Ø K MAX	L ±10%
1	-	5	High performance, High-Temp epoxy	078-2000-000	0.35	0.16	.75	.35	.22	.04	.02	.02	.08	.18
			Non-Halogen, Hot melt adhesive	078-2000-006	0.35	0.16	.75	.35	.22	.04	.02	.02	.08	.18
			High performance, Hot melt adhesive	078-2000-012	0.35	0.16	.75	.35	.22	.04	.02	.02	.08	.18
2	-	6, 7	High performance, High-Temp epoxy	078-2000-001	0.65	0.65	1.00	.56	.31	.05	.04	.05	.15	.27
			Non-Halogen, Hot melt adhesive	078-2000-007	0.65	0.65	1.00	.56	.31	.05	.04	.05	.15	.27
			High performance, Hot melt adhesive	078-2000-013	0.65	0.65	1.00	.56	.31	.05	.04	.05	.15	.27
3	MS3109-11	8, 9	High performance, High-Temp epoxy	078-2000-002	0.92	0.92	1.50	.90	.41	.06	.04	.06	.22	.40
			Non-Halogen, Hot melt adhesive	078-2000-008	0.92	0.92	1.50	.90	.41	.06	.04	.06	.22	.40
			High performance, Hot melt adhesive	078-2000-014	0.92	0.92	1.50	.90	.41	.06	.04	.06	.22	.40
4	MS3109-12	10, 13	High performance, High-Temp epoxy	078-2000-003	1.22	1.22	2.17	.90	.56	.06	.04	.06	.26	.40
			Non-Halogen, Hot melt adhesive	078-2000-009	1.22	1.22	2.17	.90	.56	.06	.04	.06	.26	.40
			High performance, Hot melt adhesive	078-2000-015	1.22	1.22	2.17	.90	.56	.06	.04	.06	.26	.40
5	MS3109-13	16, 17	High performance, High-Temp epoxy	078-2000-004	1.22	1.22	2.60	1.50	.70	.08	.04	.08	.28	.70
			Non-Halogen, Hot melt adhesive	078-2000-010	1.22	1.22	2.60	1.50	.70	.08	.04	.08	.28	.70
			High performance, Hot melt adhesive	078-2000-016	1.22	1.22	2.60	1.50	.70	.08	.04	.08	.28	.70
6	MS3109-15	21	High performance, High-Temp epoxy	078-2000-005	1.68	1.68	3.90	2.50	1.11	.08	.07	.08	.39	.86
			Non-Halogen, Hot melt adhesive	078-2000-011	1.68	1.68	3.90	2.50	1.11	.08	.07	.08	.39	.86
			High performance, Hot melt adhesive	078-2000-017	1.68	1.68	3.90	2.50	1.11	.08	.07	.08	.39	.86

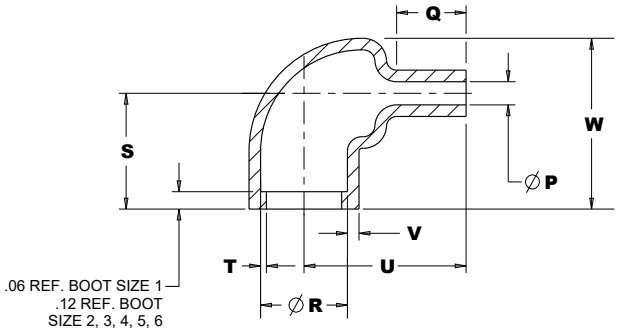
Notes:
- Material: High performance: Fluid resistance flame retarded elastomer, color black. Temperature range: -75°C to 150°C.
  Non-Halogen: Flexible zero-halogen limited fire hazard, color black. Temperature range: -55°C to 105°C.
- Minimum dimensions are as purchased , unrecovered. • Maximum dimensions shown represent the dimension at the boots maximum shrink.
- Boot size applicable only to standard ITT MKJ banded connectors. Consult factory for other size applications.
- Boot has a pre-applied polyamide hot melt adhesive or 1 part epoxy. A. Hot melt adhesive is halogen free. Operating range is -55°C to 120°C.
  B. High-Temp epoxy has an operating temperature of -75°C to 200°C.

MKJ1 Series - Accessories

Heat Shrink Boot - Right Angle



RIGHT ANGLE BOOT
(AS PURCHASED, EXPANDED)



RIGHT ANGLE BOOT (AS RECOVERED)

Heat Shrink Boot - Right Angle Dimensions

ITT BOOT SIZE	MIL SPEC	FITS SIZE MKJ1	MATERIAL	ITT PART NUMBER	Ø M MIN	Ø N MIN	Ø P MAX	Q ±10%	Ø R MAX	S ±10%	T ±20%	U ±10%	V ±20%	W ±10%
1	-	5	High performance, High-Temp epoxy	078-2100-000	0.47	0.24	.08	.24	.30	.41	.01	.56	.04	.51
			Non-Halogen, Hot melt adhesive	078-2100-006	0.47	0.24	.08	.24	.30	.41	.01	.56	.04	.51
			High performance, Hot melt adhesive	078-2100-012	0.47	0.24	.08	.24	.30	.41	.01	.56	.04	.51
2	-	6, 7	High performance, High-Temp epoxy	078-2100-001	0.65	0.65	.15	.16	.31	.60	.04	.68	.04	.79
			Non-Halogen, Hot melt adhesive	078-2100-007	0.65	0.65	.15	.16	.31	.60	.04	.68	.04	.79
			High performance, Hot melt adhesive	078-2100-013	0.65	0.65	.15	.16	.31	.60	.04	.68	.04	.79
3	MS3117-11	8, 9	High performance, High-Temp epoxy	078-2100-002	0.92	0.92	.22	.23	.41	.60	.04	.80	.05	.90
			Non-Halogen, Hot melt adhesive	078-2100-008	0.92	0.92	.22	.23	.41	.60	.04	.80	.05	.90
			High performance, Hot melt adhesive	078-2100-014	0.92	0.92	.22	.23	.41	.60	.04	.80	.05	.90
4	MS3117-12	10, 13	High performance, High-Temp epoxy	078-2100-003	1.12	1.12	.25	.28	.56	.84	.04	1.17	.06	1.12
			Non-Halogen, Hot melt adhesive	078-2100-009	1.12	1.12	.25	.28	.56	.84	.04	1.17	.06	1.12
			High performance, Hot melt adhesive	078-2100-015	1.12	1.12	.25	.28	.56	.84	.04	1.17	.06	1.12
5	MS3117-13	16, 17	High performance, High-Temp epoxy	078-2100-004	1.22	1.22	.28	.34	.70	.81	.04	1.40	.07	1.20
			Non-Halogen, Hot melt adhesive	078-2100-010	1.22	1.22	.28	.34	.70	.81	.04	1.40	.07	1.20
			High performance, Hot melt adhesive	078-2100-016	1.22	1.22	.28	.34	.70	.81	.04	1.40	.07	1.20
6	MS3117-15	21	High performance, High-Temp epoxy	078-2100-005	1.68	1.68	.38	.62	1.10	1.10	.07	2.10	.08	1.70
			Non-Halogen, Hot melt adhesive	078-2100-011	1.68	1.68	.38	.62	1.10	1.10	.07	2.10	.08	1.70
			High performance, Hot melt adhesive	078-2100-017	1.68	1.68	.38	.62	1.10	1.10	.07	2.10	.08	1.70

Notes:
- Material: High performance: Fluid resistance flame retarded elastomer, color black. Temperature range: -75°C to 150°C.
  Non-Halogen: Flexible zero-halogen limited fire hazard, color black. Temperature range: -55°C to 105°C.
- Minimum dimensions are as purchased , unrecovered. • Maximum dimensions shown represent the dimension at the boots maximum shrink.
- Boot size applicable only to standard ITT MKJ banded connectors. Consult factory for other size applications.
- Boot has a pre-applied polyamide hot melt adhesive or 1 part epoxy. A. Hot melt adhesive is halogen free. Operating range is -55°C to 120°C.
  B. High-Temp epoxy has an operating temperature of -75°C to 200°C.

MKJ Series Overview

Up to 71% weight and 52% size reduction in an industry-leading quick disconnect*

ITT Cannon continues its tradition of innovation with the MKJ line of miniature circular connectors. Bringing together a unique combination of design, functionality and flexibility, Cannon's MKJ Series offers proven, reliable and cost-effective interconnect solutions that enable critical communication, navigation and high speed data transmission–at half the size and weight of traditional D38999. Choose from UNC thread, double-start, triple-start, bayonet, breakaway and clip-lock latching coupling methods in a cost-efficient, lightweight and highly engineered design.

MKJ0 UNC Thread

MKJ3 Bayonet

MKJ5 Triple Start

MKJ1 Double Start

MKJ4 Breakaway

MKJ Clip Lock

MKJ Warrior

Key Features

- Versatile and proven for use in military, industrial and medical applications where safety and reliability are critical.
- A number of connectors in the MKJ Series offer up to 2,000 mating cycles, making them the perfect solution for ruggedized computers and hand-held communications equipment.
- Multiple coupling mechanisms enable connectivity for navigation and telemetry applications.
- Plugs and receptacles are environmentally sealed for use in the harshest environments.
- Teflon nickel, black zinc nickel and olive drab cadmium plating maintain robust reliability for 500 hours of salt spray.
- RoHS Compliant plating and part numbers available.
- Qualified to GOSSRA and design per Nett Warrior.

Cables to Outfit Your MKJ Connector

Value-Added Cabling Solutions from ITT Cannon

Let ITT Cannon complete your solution with our custom cable products. A complement to the reduction in size of the connectors is the reduction in weight and thickness in cabling. Choose from several available options to help customize your application. Improving on our high reliability connectors, we offer over molds that are suitable for military requirements in harsh environments.

Note: Polyurethane jacketed round cables and silicon jacket high-flex flat cables with overmolds.

Braiding

- EMI shielded metal to light weight, textile braiding for abrasion protection

Overmolding

- Injection molding with polyureaurethane, Santoprene, and polyimide
- Transfer molding with Cannon's Super Jacketing System (SJS Series), Viton, Neoprene, EPDM, and alternative molding compounds
- Low pressure and prototype molding including M24041, poly ureaurethane, Polyimide, and custom compounds

Shrink Boots

- Customized solution for all connector-to-cable transition type including straight, 90 and 45 degree.

Backshells

- Integration of commercial and MIL-Spec backshell and molding adapters

Cable Jacket

- Blown-on jacketing for multi leg cables using SJS jacket, Viton Neoprene, EPDM, and various other tubing jackets
- RONDENT proof extruded jackets using SJS jacket, poly ureaurethane, Santo-prene and Neoprene.
- Textile braids and heat shrink jackets

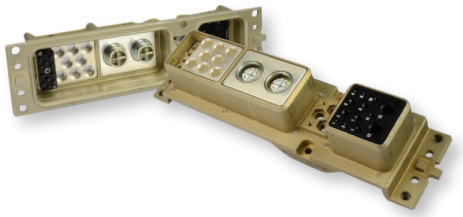
Integrated Assembly

- Integrated connector and cabling into box system
- Ribbon cable assembly
- Cable/Wire harnesses in boxes or as an LRU
- Machined & integrated high volume Die Cast housing

Amazing things happen

when great things connect

ITT Cannon is a leading global manufacturer of connector products serving international customers in the aerospace and defense, medical, energy, transportation and industrial end markets. Whether delivering critical specs to aircraft pilots, streaming data through communications satellites or enabling ultrasound technology that gives an expectant mother the first glimpse of her unborn child, Cannon connects the world's most important information with the people who need it.



With over 100 years of interconnect excellence and seven decades of global presence from the Defense and Medical Industry, we are a committed partner among today's critical equipment manufacturers.

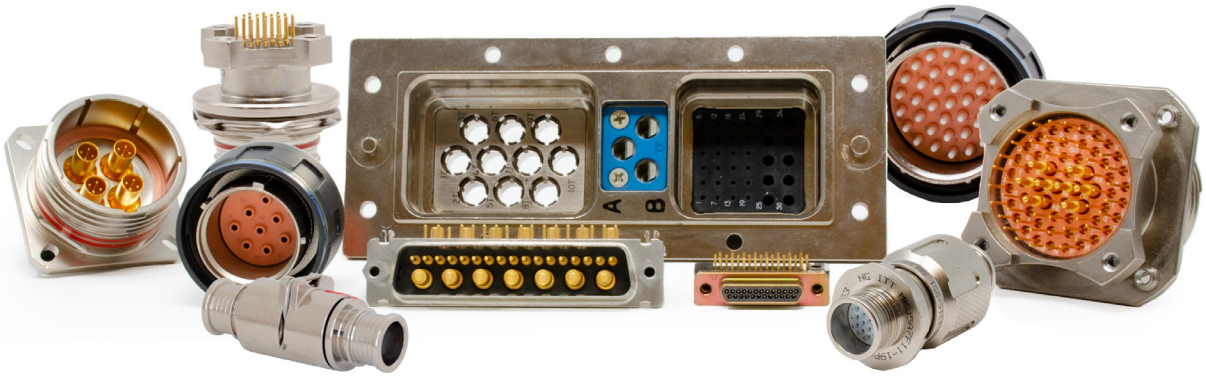
A Century of Connections

In 2015, Cannon marked its 100th Anniversary of Innovation. Cannon products were used in the first "talking" movies and helped transmit the first messages back to earth when we landed on the moon. Today we proudly continue our legacy of innovating to connect the world and inspire the successes of the next century – because amazing things happen when great things connect.

Visit ittcannon.com to learn more.

About ITT

ITT is a diversified leading manufacturer of highly engineered critical components and customized technology solutions for the transportation, industrial, and oil and gas markets. Building on its heritage of innovation, ITT partners with its customers to deliver enduring solutions to the key industries that underpin our modern way of life.



ITT Cannon Defense Solutions

Meet Some of Our Most Innovative Connectors

Cu Light Series

Size #8 TOSA-ROSA for 10 Gbps Copper-to-Fiber conversion in military circular connectors

C5 Warrior Series

Ultra-High-Density, 10 Gbps Solution, 4 times smaller than D38999 connectors for USB-C, DisplayPort, HDMI & Gb Ethernet protocols

MKJ Display Port Series

Vibration resistant Display Port with 5.4 Gbps data lanes, optimized impedance-controlled contact system, and low-smoke zero-halogen cabling

KJ Series (38999-style)

- High contact density pin count
- Moisture resistant
- Quick connect & disconnect
- Fiber Optic, Hermetic, Filter

CA Bayonet Series

- 1 to 140 contact arrangements
- Shell size #10SL to #36
- Reverse bayonet up to IP69K
- CAB/VG95234 & CGE/VG96929

Nemesis Series

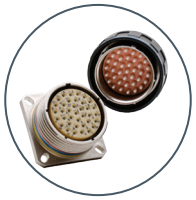
- 20+ meter sealing
- Dual coupling or Breakaway
- Power, signal & data
- Blind mating design

KP Series

- 10 shell size, with up to 40 layouts from 2 to 61 contacts
- Sealing up to IP67
- VG95238 & MIL-DTL-26482

CA Threaded / 5015 Series

- 5 polarizations
- Individual wire sealing grommet
- RoHS compliant options
- MIL-DTL-5015 (SAE-AS50151)



Fiber Optic Series

- Termini, savers and cable assemblies integrations in M29504, D38999, M28876, Jewel, NGCON, DSUB, Micro, PHD and ARINC

D-Sub Series

- Mixed Signal / Power, M24308, Crimp, Solder, PC Tail, Double Density, Filter/ Hermetic
- Up to 104 contact

HDx Series

- High-Density, Small Form Factor
- High speed data - USB® 3.1 Gen1 up to 5Gbit/s, Ethernet up to 10Gbit/s, HDMI® up to 8.16 Gbit/s

Micro Series

- High Temperature (+230˚C)
- Low profile configuration
- Mixed power, coax and signal layouts & M83513

MKJ Series

- High-density, miniature footprint
- UNC thread, double start, triple start, bayonet, breakaway and clip lock latching

Product Safety Information

This note must be read in conjunction with the Product Data Sheet / Catalog. Failure to observe the advice in this information sheet and the operating conditions specified in the Product Data Sheet / Catalog could result in hazardous situations.

1. MATERIAL CONTENT & PHYSICAL FORM

Electrical connectors do not usually contain hazardous materials. They contain conducting and non-conducting materials and can be divided into two groups:

a) Printed circuit types and low cost audio types which employ all plastic insulators and casings.

b) Rugged, Fire Barrier and High Reliability types with metal casings and either natural rubber, synthetic rubber, plastic or glass insulating materials. Contact materials vary with type of connector and also application and are usually manufactured from either: Copper, copper alloys, nickel, alumel, chromel or steel. In special applications, other alloys may be specified.

2. FIRE CHARACTERISTICS AND ELECTRIC SHOCK HAZARD

There is no fire hazard when the connector is correctly wired and used within the specified parameters.

Incorrect wiring or assembly of the connector or careless use of metal tools or conductive fluids, or transit damage to any of the component parts may cause electric shock or burns. Live circuits must not be broken by separating mated connectors as this may cause arcing, ionization and burning. Heat dissipation is greater at maximum resistance in a circuit. Hot spots may occur when resistance is raised locally by damage, e.g. cracked or deformed contacts, broken strands of wire. Local over- heating may also result from the use of the incorrect application tools or from poor quality soldering or slack screw terminals. Overheating may occur if the ratings in the product Data Sheet/Catalog are exceeded and can cause breakdown of insulation and hence electric shock. If heating is allowed to continue it intensifies by further increasing the local resistance through loss of temper of spring contacts, formation of oxide film on contacts and wires and leakage currents through carbonization of insulation and tracking paths. Fire can then result in the presence of combustible materials and this may release noxious fumes. Overheating may not be visually apparent. Burns may result from touching overheated components.

3. HANDLING

Care must be taken to avoid damage to any component parts of electrical connectors during installation and use. Although there are normally no sharp edges, care must be taken when handling certain components to avoid injury to fingers. Electrical connectors may be damaged in transit to the customers, and damage may result in creation of hazards. Products should therefore be examined prior to installation/use and rejected if found to be damaged.

4. DISPOSAL

Incineration of certain materials may release noxious or even toxic fumes.

5. APPLICATION

Connectors with exposed contacts should not be selected for use on the current supply side of an electrical circuit, because an electric shock could result from touching exposed contacts on an unmated connector. Voltages in excess of 30 V ac or 42.5 V dc are potentially hazardous and care should be taken to ensure that such voltages cannot be transmitted in any way to exposed metal parts of the connector body. The connector and wiring should be checked, before making live, to have no damage to metal parts or insulators, no solder blobs, loose strands, conducting lubricants, swarf, or any other undesired conducting particles. Circuit resistance and continuity check should be made to make certain that there are no high resistance joints or spurious conducting paths. Always use the correct application tools as specified in the Data Sheet/Catalog. Do not permit untrained personnel to wire, assemble or tamper with connectors. For operation voltage please see appropriate national regulations.

6. IMPORTANT GENERAL INFORMATION

6.1 Air and creepage paths/operating voltage. The admissible operating voltages depend on the individual applications and the valid national and other applicable safe- ty regulations. For this reason the air and creepage path data are only reference values. Observe reduction of air and creepage paths due to PC board and/or harnessing.

6.2 Temperature. All information given are temperature limits. The operation temperature depends on the individual application.

6.3 Other important information. Cannon continuously endeavors to improve their products. Therefore, Cannon products may deviate from the description, technical data and shape as shown in this catalog and data sheets.

7. MISCELLANEOUS

"Cannon" and "Veam" are brands of ITT, Inc. ("ITT"). ITT's connector products are intended to be used in accordance with the specifications in this publication (and any other relevant publications that are applicable to the specific product). Any use or application that deviates from the stated operating specifications is not recommended and may be unsafe. No information and data contained in this publication shall be construed to create any liability on the part of ITT or its successors, assigns, officers, directors, employees, affiliates, and agents, including, but not limited to, any liability for any patent infringements or other rights of third parties which may result from its use. Any new issue of this publication shall automatically invalidate and supersede all previous issues. Reprinting this publication is generally permitted, provided that ITT's prior written consent is obtained, and the source is indicated. This publication is not to be construed as an offer. It is intended merely as an invitation to make an offer. Product availability, prices, and delivery dates are exclusively subject to ITT's order confirmation form; the same applies to orders based on development samples delivered. Please refer to ITT's Terms and Conditions of Sale located at www.ittcannon.com for the full text of the terms and conditions that apply to ITT's connector products. Commodities in this catalogue may be controlled for export by the International Traffic in Arms Regulations (ITAR) and Export Administration Regulations (EAR) when specifically designed, modified, or configured for articles controlled by the United States Government.

Connect with your ITT Cannon representative today or visit us at
ittcannon.com

Connect with the experts.

Whether communicating with our soldiers in the field or powering critical equipment, ITT Cannon connects when it matters most.

cannon

NORTH AMERICA

USA - Irvine, CA
+1.800.854.3028

MEXICO - Nogales
+52.631.3110050

EUROPE

GERMANY - Weinstadt
+49.7151.699.0

UK - Basingstoke
+44.1256.347400

ITALY - Lainate
+39.02938721

FRANCE
+33.1.60.04.93.93

ASIA PACIFIC

SINGAPORE
+65 66974205

JAPAN - Kanagawa
+81.462.57.2010

KOREA
+82.2.702.7111

CHINA - Shenzhen City
+86.755.2726.7888

HONG KONG
+852.2732.2720

ITT Cannon MKJ1 Catalog 03/2025